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ABSTRACT

A study examined European Social Fund (ESF)-funded middle-level technician (MLT) and higher technical and business skills (HTBS) courses at Irish technical colleges. Data were obtained from the following: review of relevant literature; review of all program-monitoring documents submitted by Ireland's Department of Education since 1990; interviews with representatives of selected state agencies and technical colleges; and survey of employers of MLT/HTBS course graduates. MLT and HTBS courses were found to be successful programs having tremendous impacts on technical/vocational training and giving participants the technical skills required to meet changing employer needs. Among the 21 actions recommended to improve MLT/HTBS programs were the following: introduce comprehensive procedures to monitor MLT/HTBS courses and graduates; consider funding part-time students in regional technical colleges (RTCs); continue to make development of the RTC sector's infrastructure a priority; increase the number of academic staff in RTCs; develop new policies regarding training trainers in RTCs, standardize colleges' approach to developing links with industry; expand work placement schemes; prevent the streaming of female students into nontechnical areas, and categorize MLT and HTBS as initial training. (Contains 18 tables. Appended are tables detailing colleges operating ESF programs, program enrollments, and MLT/HTBS courses approved for ESF aid.) (MN)

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ED 397 224

European Social Fund

PROGRAMME EVALUATION UNIT

Evaluation Report

Middle Level Technician/ Higher Technical & Business Skills

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Located in the Department of Enterprise and Employment, the European Social Fund Programme Evaluation Unit reports jointly to that Department and the European Commission.

Middle Level Technician/Higher Technical & Business Skills

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For further information please contact:
ESF Programme Evaluation Unit
Davitt House
65A Adelaide Road
Dublin 2
Telephone: 6614444 Extension: 3355
Fax: 6764852

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1. INTRODUCTORY COMMENTS

Middle Level Technician courses (MLT) and Higher Technical and Business Skills courses (HTBS) form respectively a measure and sub-measure of the Human Resources Sub-Programme of the Industry and Services Operational Programme. Both measure and sub-measure are administered by the Department of Education. MLT courses have been in operation since the mid 1970's, first receiving European Social Fund (ESF) aid in 1975, and they were incorporated into the Operational Programme for Industry and Services in 1990. HTBS courses received ESF funding for the first time under the Community Support Framework (CSF) 1989 to 1993.

Middle Level Technician covers all one year and National (two year) Certificates run in the Regional Technical Colleges and the Dublin Institute of Technology (DIT). It is the largest single measure in the Community Support Framework accounting for IR£50.009m expenditure in 1993, IR£32.5m of which comes from the ESF.

Higher Technical and Business Skills covers all Diploma courses run in RTCs and the DIT including three year "ab initio" Diplomas and one year "add on" Diplomas. The latter involve an additional year of study following completion of a two year National Certificate. Most of the courses included under the HTBS sub-measure were in existence prior to the introduction of the current CSF in 1989 but have only been in receipt of funding since that time.

MLT and HTBS are clearly closely linked - indeed, in the case of add-on Diplomas, the first two years of a student's training is funded under MLT while the last year is funded under HTBS. For this reason the two programmes are evaluated together in this report. The two interventions will account for in excess of IR£75m in 1993, IR£50m of which will come from the ESF. More than 68,685 people were targeted for training under the two measures in the 1990 to 1993 framework period.

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Objectives and Delivery

Middle Level Technician

The Sub-Programme for Human Resources describes the objectives for the Middle Level Technician measure. It was to consist of full time vocational training in middle level technical skills and higher level secretarial skills with special emphasis on the application and use of new technology. It was planned that up to 6,150 trainees per year would issue onto the labour market under this measure, all of whom were originally to be under 25. However, the Department of Education removed the upper age limit for receipt of ESF assistance under MLT on 1 January 1990.

Courses were to be one or two year courses in Regional Technical Colleges (RTCs) and the Dublin Institute of Technology (DIT). The qualifications attained were to be NAT/DIT (National/Dublin Institute of Technology) certificates. The Operational Programme indicates an average of 1260 instruction hours per trainee per year; 60% of training was to be practical and 40% theoretical.

Trainees were to be trained in skills required by small and medium sized enterprises and overseas companies who locate or expand in Ireland. The aim was to create a core of trained staff who can be employed in a wide variety of businesses. MLT courses are aimed at computer technology, electronics, chemicals/pharmaceutical, engineering, construction, secretarial skills, marketing and commerce and decisions on the kinds of MLT courses to run were to be made on the basis of the skill needs of the locality of the individual colleges.

The programme is funded by the Department of Education. Until recently funding was channelled through Vocational Education Committees in whose centres the programme is provided. Under the terms of recent legislation however, funding now goes directly to colleges. Means testing to determine the maintenance element of ESF grants was introduced for the first time in 1992.

Programme quality is monitored by the Department of Education and it co-ordinates the returns submitted by the various bodies in respect of this programme. The appointment of teaching staff for the programme is subject to approval by the Department of Education and course standards are validated by the National Council for Educational Awards (NCEA).

Higher Technical and Business Skills

The Operational Programme indicates that Higher Technical and Business Skill Courses comprise three year full-time ab-initio diploma courses and one year "add on" courses catering for those who require higher technical or business skills. The courses were to have a large technology content and be aimed at providing participants with the advanced qualifications required by the changing labour market to meet employment needs.

Courses were to average 960 hours each year (60% practical, 40% theoretical) and to cover the following sectors: Electronics (7.9%), Science (10.1%), Business/Commerce (35.2%), Engineering (10.5%), Computing (3.1%), Construction (5.5%), Design (12.9%), Other (14.8%). The courses are delivered in Regional Technical Colleges and the Dublin Institute of Technology. Like MLT, HTBS is funded by the Department of Education and course standards are validated by the National Council for Educational Awards. As in the case of MLT means tests were introduced in 1992 in respect of the maintenance element of ESF grants.

Complete lists of

- all colleges operating MLT/HTBS courses,
- all MLT/HTBS courses approved for European Social Fund aid 1991/1992, and
- student numbers by college 1991/92

are provided in the appendices.

Colleges operating MLT and HTBS courses include the eleven Regional Technical Colleges, five of the six Dublin based colleges which have now been amalgamated within the Dublin Institute of Technology (DIT) and the College of Art and Design, Dun Laoghaire, Co. Dublin. A new RTC was established in Tallaght in 1992 and in January of this year, 1993, the Limerick College of Art, Commerce and Technology changed its name to Limerick Regional Technical College. Both of these developments caused the number of RTCs to rise from nine to eleven. The Crawford School of Art and Design and the Cork School of Music have become part of Cork RTC.

Methodology

The following approach was taken to this evaluation:

- A review of relevant literature.
- A review of all monitoring returns submitted by the Department of Education since 1990.
- A series of interviews with the Department of Education, the NCEA and members of staff of selected Regional Technical Colleges and the Dublin Institute of Technology.
- A survey of employers of MLT/HTBS course graduates, designed to build on the results of the general survey of training and recruitment policies already completed by the Programme Evaluation Unit.

2. REVIEW OF LITERATURE

This section contains an overview of recent literature dealing with developments in Irish third level education. Of particular interest for the purposes of this report are references to developments in the Regional Technical Colleges, the Dublin Institute of Technology and any other colleges running MLT/HTBS courses. While none of the reports reviewed deal exclusively with ESF funded courses, the Clancy Report reveals that in 1986 88% of new entrants to the RTCs were in receipt of ESF funding and that this form of funding was available to half of the entrants to the DIT. The Clancy Report was written prior to the introduction of the HTBS so that the ESF funding in question related exclusively to MLT courses. Therefore an even higher proportion of RTC/DIT new entrants must now be in receipt of ESF funding.

Who Goes to College? A Second National Survey of Participation in Higher Education. (HEA; November 1988. Author Patrick Clancy)

The Clancy Report was based on a national survey of all those who enrolled for the first time as full-time higher education students in Autumn 1986. The first survey of this kind was conducted in 1980. A third national survey is presently underway and is due for publication in 1994. As in earlier surveys all first time entrants to full time higher education in 1993 will be covered. The results of this study, once available, will add greatly to the body of knowledge on higher education in Ireland.

The second Report was set against a background of a rapid expansion since the 1960s in educational enrolments at second and third level. Since the mid 1950s the percentage growth in enrolments in full-time higher education ranges from 26% to 39% for each five year period.

This numerical growth has been accompanied by diversification and structural change. Until the late 1960s the system was dominated by the university sector, which in 1969 accounted for 78% of total higher education enrolments. By 1985 this percentage had declined to 50%. The main reason for the diversification was the establishment in the 1970s of nine Regional Technical Colleges (RTCs) and the expansion of existing Technological Colleges in Dublin and Limerick. Such colleges were designed primarily to provide short-cycle courses with a strong vocational emphasis.

In 1986, the year in which this survey was conducted, there were 6,118 new entrants to the RTC sector and 2,199 to what were then the six colleges of the Dublin Institute of Technology (DIT) - giving a combined total of 8,317. The trend of increased numbers in the RTC/DIT sector is shown clearly by the fact that new entrants to the RTCs showed a growth of 52% since 1980. New entrants to the six colleges of the DIT showed a growth of 40% since 1980. The findings of the Survey are summarised briefly below.

- The survey revealed that there were more male than female new entrants to the RTC/DIT sector in 1986. Universities alone by contrast, if one excludes what were then the two National Institutes of Higher Education, had more female than male new entrants.

- The largest percentage of students (30%) was enrolled in Business, Administrative and Secretarial Studies. Almost 22% of students were enrolled in General Engineering with a further 7% in Construction Studies.

- The distribution of students between fields of study varied significantly by sex. The largest percentage (38%) of male new entrants enrolled in General Engineering, while only 3% of females entered this field of study. Construction Studies also revealed a large sex differential in favour of males, with 11.5% of male new entrants compared to only 2% of female new entrants. The largest percentage (35.5%) of female new entrants enrolled in Business, Administration and Secretarial Studies.

- Students from the farmers social group formed a higher percentage of new entrants to the Colleges of Education (32%) and the RTCs (28%) than to the other types of college. Students from the Higher Professional Group were disproportionately represented in the University Sector and the "other colleges" category. This group had its lowest proportionate representation in the Colleges of Education and in the RTCs. The colleges of the DIT and those colleges referred to in the survey as "other colleges" had the highest percentage (26%) of students from the Employers and Managers group. Students from the Skilled Manual Workers Group formed a higher percentage of new entrants to the RTCs (18%) and to the DIT (16%) than to the other college types.

- The overwhelming majority (88%) of new entrants to the RTCs were in receipt of ESF funding, while this form of aid was available to half of the new entrants to the DIT. These figures clearly reveal the impact which ESF funding has had on the growth of the RTC sector. Figures quoted earlier showed that new entrants to the RTCs had shown a growth of 52% since 1980. This has clearly been facilitated by the increased availability of ESF funding.

Issues for Evaluation

In addition to providing useful background information the Clancy Report raises a number of issues which were addressed in the course of this evaluation:

- There were more male than female new entrants to the RTC/DIT sector in 1986. The issue arises of whether this trend has continued up to the present and if efforts have been made to encourage more females to develop middle and higher level technical skills.

- In 1986, students from the Higher Professional Group were disproportionately represented in the University sector while students from the Skilled Manual Workers Group formed a higher percentage of new entrants to the RTCs and to the DIT than to the other College types. Obviously, many factors come into play here such as socialisation, tendency to follow the career pattern of parents, etc.. Even so, it appears that the availability of ESF funding has not only contributed to the expansion of the sector generally but that it has also placed third level education within the reach of people who would not otherwise have been able to avail of it. The specific benefit which ESF funding of MLT and HTBS courses has had for those financially less well off is highlighted by the fact that more than two thirds of students from the Unskilled Manual Workers Group and more than half of the students from the Other Non-Manual Workers and Skilled Manual Workers Group were in receipt of ESF funding.

- The highest percentages of students receiving no funding in 1986 were in Education (i.e., teacher training) and in Hotel, Catering and Tourism. Given the technical/business element required to qualify for ESF assistance this is not surprising. The situation has undoubtedly changed since that time with the introduction of the Tourism Operational Programme which led to increased funding for tourism-related courses. It is estimated that 88% of those doing tourism-related courses in the RTCs in co-operation with CERT are now in receipt of ESF funding as compared with 41% in 1989. A point to be considered, however, is whether the balance of funding between the technical and other sectors continues to be the correct one. Are skill needs now the same as they were in 1989 or might funding be more productive in the long term if it were pointed in a new direction? This will be addressed further in the course of this evaluation.

The Lindsay Report. "Report of a Committee established to examine Third Level Courses which lead to awards by NCEA & other bodies outside the Universities" September 1989

In February 1988 the Department of Education established a Committee to examine third-level courses leading to awards by the NCEA and other bodies outside the Universities. The Committee's initial conclusions were based on data relating to the academic year 1986/1987. However, evidence of considerable change in the course of the next year prompted the Committee to undertake further data analysis and update the findings related to the 1988/1989 status of operation of the Colleges.

The Lindsay Report, like the Clancy Report, noted the impressive growth in enrolments in the VEC colleges - 105% since 1980/81, as against 32% for the university sector, and 16% over the previous two years. Its most significant finding was that "the qualifications at all levels have proved appropriate for the jobs obtained and provide a satisfactory level of employability for the award holders." Employers have, moreover, "uniformly expressed satisfaction with the standards of qualifications." Six months after receiving an award, the proportion seeking employment ranged from 9% for National Certificate recipients, to 3.2% for recipients of a One Year Certificate, with an overall average of 8%. After two to three years the number who have failed to find work since leaving College is negligible.

The most common employment categories were General Manufacturing, 34.5%, and Services, 34.4%. More detailed categorisation showed that the most common employments were in Electronics, 12.3%, Professional Services, 10.6%, and Education, 11.2%.

The Report found the geographical distribution of employment among award recipients to be very high. It is quite clear, it states, that VEC Colleges cater for manpower needs other than those in their own regions. Also noted was a high propensity for award holders, particularly holders of Certificates, to proceed to further study. There has to date, the Committee found, been no difference in statistical terms between the chances of eventual employment for holders of Certificate, Diploma, and Degree. However differences in remuneration did arise by level of qualification.

Issues for Evaluation

Among the areas highlighted in the Report as areas of concern or where changes might be introduced in the future are the following:

- The Committee supported an expansion of the role of the NCEA in the approval and monitoring of courses, to include all courses comparable in level to NCEA courses, whether or not they lead to NCEA awards.

- The Report expressed concern at the level of uncertified departures from VEC colleges. The Committee estimated that there were some 3,500 uncertified departures in 1986/87, representing some 18% of the full-time student body. Uncertified departures may give the appearance of increasing throughput by inflating the number who leave the system each year. While the reasons for leaving varied it was considered to be significant that on Certificate courses, departures in first year amounted to 30%, of which 23% left on failing the end-of-year examination. Of the 41% who left Certificate courses uncertified, 31% left due to examination failure. The Committee pointed out that the wide range of variation between colleges in the rates of uncertified departure showed that improvement was possible. It recommended that individual colleges be encouraged to minimise uncertified departure by improved selection and counselling procedures.

- The Committee was concerned to note a small number of courses which were examined and certified independently by the Colleges concerned. Some doubt was expressed about the acceptability of awards granted in this manner.

These issues will be examined in the course of this evaluation.

'Education for a Changing World": Green Paper (Government Publication: June 1992)

In June 1992 the Government published a Green Paper entitled "Education for a Changing World". This document takes a fundamental look at the Irish education system and has initiated debate on the future of that system.

One recommendation which would have considerable implications, if implemented, for RTC/DIT courses was that all colleges at third level would be expected to publish an Annual Report which would include a review of performance against agreed performance indicators and against other policy objectives. The proposed report would also detail post-graduation performance, in relation to progression to postgraduate studies and employment performance. The Paper also stresses that there should be a productive partnership between higher education and the industrial and commercial sectors.

The Paper refers to the new legislation for the RTCs and DIT. An important aspect of this legislation is the provision to permit colleges to engage in extensive research and development. This provision should greatly facilitate regional development and support for local industry.

The Green Paper makes a number of detailed recommendations in respect of RTCs/DIT. Regarding course development in the colleges, it is suggested, a particularly important aspect is the need to ensure that the value of both certificates and diplomas is not undermined, and that they retain their primary function as terminal qualifications for employment. It is further proposed that all applications for programme development from the RTC/DIT colleges will be assessed and approved by the NCEA. The NCEA would then report annually to the Department on the pattern of course development by reference to the agreed policy guidelines.

Close liaison between the NCEA and the Higher Education Authority (HEA) will be required. The legislation originally setting up the HEA envisaged it having a broad advisory role for the entire higher education sector but in practice its activities have tended to be related largely to the universities alone. One scenario envisaged in the Paper is that the HEA should have responsibility for the overall co-ordination of the two sectors and the elimination of unnecessary duplication and overlap. It should also have responsibility for ensuring an appropriate overall balance between certificate, diploma, degree and postgraduate work. It should in addition monitor quality assurance through a proposed Academic Audit Unit and should promote links between colleges and industry.

It is timely, the Green Paper suggests, to review standards of entry to the various RTC/DIT courses, together with success and drop-out rates. The NCEA has been asked to make such a study, in consultation with the college authorities. This study will be linked to a review of standards of achievements in each of the colleges.

The Green Paper proposes the establishment of a new council - the Council for Educational and Vocational Awards (CEVA) - which would incorporate the functions of both the NCEA and the newly established National Council for Vocational Awards.

The Green Paper is a discussion document and its proposals may not be implemented exactly as set out. The direction in which it points is nonetheless important and may have implications for the future operation of both MLT and HTBS. Among its most significant proposals are the introduction of Annual Reports for RTCs, increased emphasis on modularisation, credit transfers etc., the maintenance of an appropriate balance between certificate, diploma and degree courses, improved quality assurance procedures and an expansion of the research and development aspect of work in the RTCs.

"Employment through Enterprise: The Response of the Government to the Moriarty Task Force on the Implementation of the Culliton Report." May 1993

The most recent report likely to have a bearing on education in Ireland, including that provided by the RTC sector, is the response of the Government to the Moriarty Task Force on the implementation of the Report of the Industrial Policy Review Group i.e., the "Culliton" Report. The Culliton Report was published in January 1992 and made a number of recommendations on industrial policy in Ireland and on public policy generally. The range of recommendations and their potential implications were such that a Task Force was set up under Dr. Patrick Moriarty to follow up on the report.

The main points of relevance emerging from the Government response to the Moriarty Task Force are as follows:

i) A call for a greater emphasis on the importance of skills and knowledge that will provide a basis for enterprise and practical activities, while maintaining an awareness of the importance of academic subjects.

ii) A decision to increase industry and business representation on the Higher Education Authority so that the strategic and general management of the higher education sector reflects the views of people from commerce and industry.

iii) The establishment of a national, independent and authoritative certification body to cater for the certification of training, apprenticeships and other educational courses.

iv) Training and certification standards to be based on best international practice which would tend to be the higher German and continental European skills/knowledge requirements rather than the generally lower and narrower UK/City and Guilds standards which have tended to be the model in Ireland in the past.

Indications are that the recommendations of the Task Force are to be considered further in the forthcoming White Paper on education. The emphasis on vocational and skills training is thus likely to be echoed in that document.

Overview

Available literature relating to the MLT and HTBS programmes provides useful background information as to the manner in which they have operated to date. Although the Clancy Report and - to a lesser extent - the Lindsay Report are somewhat out of date they nonetheless reveal past trends and raise a number of questions which need to be addressed. The Green Paper and the Government response to the Moriarty Task Force point the direction in which MLT/HTBS might develop in the future. Past trends, issues to be addressed and possible developments in the future are all considered in the course of this evaluation.

3. ACTIVITY AND EXPENDITURE

The analysis of activity and expenditure contained in this section is based on forecasts in the Technical Description Sheets which are part of the Operational Programme, the 1990 and 1991 Final Claims and the Monitoring Returns submitted by the Department of Education.

Middle Level Technician

The following table gives details of the forecasts and outturns for the MLT programme to date.

MLT - FORECAST AND OUTTURN
£m

Year	Grand Total	Co-Financed			100% State	Numbers		
		Total	ESF	State		Co-Financed	Non Co-Financed	Total
1990								
Forecast:	51.029	51.029	33.169	17.860		13,500	-	13,500
Outturn:	54.249	54.249	35.262	18.987		13,829	-	13,829
1991								
Forecast:	44.568	44.568	28.969	15.599		11,315	-	11,315
Outturn:	54.896	48.426	31.477	16.949	6.47	13,330	1,154	14,484
1992**								
Forecast:	47.570	47.570	30.920	16.650		11,315	-	11,315
Revised Forecast:	57.101*	54.081	40.561	13.520	3.02*	14,208*	472*	14,680*
1993								
Forecast:	49.417	49.417	32.121	17.296		11,315	-	11,315
Revised Forecast:	60.679*	50.009	32.506	17.503	10.67*	11,900*	3,110*	15,010*
1990-1993								
Forecast:	192.584	192.584	125.179	67.405	-	47,445	-	47,445
Revised Forecast:	226.925*	206.765	139.806	66.959	20.16	53,267*	4,736*	58,003*

* *Estimates.*

*** The intervention rate for MLT in 1992 was changed to 75% in February 1992*

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Numbers Trained

The actual outturn for numbers in 1990 and 1991 is an annualised average and forecasts are based on the same formula. Between January and August 1990, 13,508 trainees participated in the MLT programme; 14,471 trainees participated in the period September to December. The basis for the figure of 13,829 is as follows:

$$\frac{(13{,}508 \times 2) + 14{,}471}{3} = 13{,}829$$

This method of calculating numbers is used on all Department of Education measures in the Industry and Services Operational Programme. Since the funding is based on the calendar year, the method has been developed to allow reports on activity to be made on the same basis, although the calendar year includes activity from two academic years. Breakdowns of trainees are then based on proportions of actual numbers applied to the annualised figure.

It is clear from the figures supplied that for each year of operation of MLT to date the number of persons trained has been either just above or well above target. In 1990 the number of persons trained was 329 more than originally forecast while in 1991 the total number of persons trained exceeded the original forecast by 3,169. The Department forecasts that by the end of 1992 the total number trained in that year will be 14,680. A figure of 15,010 has been estimated by the Department to be the potential number of trainees under this programme in 1993. The estimates for 1992 and 1993 are based on total, not just co-financed, expenditure. Any expenditure incurred on either MLT and HTBS over and above that which is co-financed is entirely funded by the Irish Exchequer.

Expenditure

The other main trend apparent from the figures in the table is that considerably more money has been absorbed by this measure each year than had originally been forecast. A total of £14.627m ESF has been transferred into this measure over the CSF period to date. The single most significant factor accounting for rising levels of expenditure is the increase in the number of persons trained. As seen earlier numbers have increased steadily since 1990 and Departmental sources feel that a more rapid rise is likely in 1993. On this basis they have recently requested that additional aid becoming available from any source should be transferred to MLT.

Other explanations for increasing expenditure levels are as follows:

(i) higher training allowance costs due to a change in the distribution of trainees living further than 15 miles from their colleges and qualifying for the higher rate of grant; and

(ii) the commitments given in the Government's Programme for Economic and Social Progress which led to an increase in pay costs for teachers.

TRAINEE ANALYSIS

	Total	*Male*	*Female*
1990			
Forecast	13,500	7,965 (59%)	5,522 (41%)
Outturn	13,829	8,104 (59%)	5,725 (41%)
1991			
Forecast	11,315	6,675 (59%)	4,639 (41%)
Outturn*	14,484	8,285 (57%)	6,199 (43%)

** Numbers refer to total participation of 14,484, including 1,154 participants funded entirely by the Exchequer.*

An analysis of trainees shows that, while the numbers involved are greater than originally envisaged, the forecast in respect of male/female ratios was accurate. In 1990, 59% of those trained were males while 41% were female. The ratio was reduced slightly in 1991 with 57% male and 43% female. All those involved in the programme were unemployed at the outset. A requirement for participating in an ESF funded course is that students must first be registered with FÁS, the national training and employment authority.

Trends since 1981

The MLT programme has been in operation since the mid '70s. While this report is largely concerned with the operation of the programme under the Community Support Framework, statistics dating from before that time are useful in that they indicate trends which have become apparent over the years. Figures provided by the Department of Education show that total expenditure rose from IR£9.338m in 1981/82 to IR£50.137m in 1989, a fivefold increase. An equally dramatic increase occurred in the number of persons trained, as the table and figure over indicates.

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MLT NUMBERS TRAINED *1981 - 1992*												
Year	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Numbers Trained*	3,020	3,037	3,498	6,165	10,314	10,606	11,499	12,283	12,967	13,829	14,484	14,680

* *Annualised averages*

In 1981, 3,020 students were trained. As the figure above illustrates, a steady increase occurred between 1981 and 1989. Particularly large increases occurred in 1984 and 1985. These can be explained in part by the fact that the structure of a number of courses which had formerly been ab-initio diplomas was adapted to the 2 year certificate and 1 year add-on diploma format. This change resulted in more people becoming eligible for funding at certificate level than had hitherto been the case. (At this point in time diploma courses, now HTBS, did not receive ESF funding). While part of the increase can thus be explained in terms of increased eligibility rather than increased numbers, it is nonetheless clear that the numbers in training were also rising as the increases continued steadily over subsequent years, rising to 12,967 in 1989. The trend of increased numbers continues over the course of the present CSF. By 1991, 14,484 students were being trained. A dramatic increase had thus occurred within the space of a decade.

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Higher Technical Business Skills

The following table gives details of the forecasts and outturns for the HTBS programme to date.

HTBS - FORECAST AND OUTTURN £m

Year	Grand Total	Co-Financed			100% State	Numbers		
		Total	ESF	State		Co-Financed	Non Co-Financed	Total
1990								
Forecast:	23.922	23.922	15.549	8.373	-	5,335	-	5,335
Outturn:	25.965	25.965	16.877	9.088	-	6,401	-	6,401
1991								
Forecast:	24.926	24.926	16.202	8.724	-	5,335	-	5,335
Outturn:	29.078	28.005	18.203	9.802	1.073	6,460	397	6,857
1992								
Forecast:	26.602	26.602	17.291	9.311	-	5,335	-	5,335
Revised Forecast:	31.900	29.678	19.291	10.387	2.222*	6,017	1,183*	7,200*
1993								
Forecast:	27.640	27.640	17.966	9.674	-	5,335	-	5,335
Revised Forecast:	33.870	27.640	17.966	9.674	6.23*	5,335	3,045*	8,380*
1990-1993								
Forecast:	103.09	103.09	67.008	36.082	-	21,340	-	21,340
Revised Forecast:	120.813	111.288	72.337	38.951	9.525*	24,213	4,625*	28,838*

* *Estimates.*

Numbers Trained

As in the case of MLT the actual outturn for numbers in 1990 and 1991 is an annualised average. The same formula as that applied to MLT is employed. The figures show that, as in the case of MLT, numbers trained have exceeded the amount forecast in both 1990 and 1991 (although not by such large amounts as in the case of MLT). The trend is continuing in 1992. The Department envisages that 8,380 people will be trained in 1993.

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Expenditure

The amount spent on this programme has also exceeded the original forecast for each year to date. The Department overspent on HTBS in both 1990 and 1991 and this trend is expected to continue for 1992 and 1993. The overspends are due to a continuing rise in trainee numbers. The Department again points out that more money could easily be absorbed under this measure.

TRAINEE ANALYSIS

Year	*Total*	*Male*	*Female*
1990			
Forecast:	5,335	3,480 (65%)	1,874 (35%)
Outturn:	6,401	3,563 (56%)	2,838 (44%)
1991			
Forecast:	5,335	3,480 (65%)	1,874 (35%)
Outturn*:	6,857	3,922 (56%)	2,935 (43%)

** Numbers refer to total participation of 6,857, including 397 participants funded entirely by the Exchequer.*

An analysis of trainees shows that a slightly higher ratio of females to males were trained than had been envisaged in the Operational Programme. All those trained under the HTBS were unemployed. As in the case of MLT potential trainees are required to be registered with FÁS.

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4. THE ROLE OF KEY AGENCIES

The next step following the review of literature and the analysis of expenditure and activity was an examination of the respective roles of all the institutions/agencies involved in delivering and administering the programmes. Such an examination aims to reveal not only the mechanics of how MLT and HTBS actually operate but also to highlight further issues to be addressed in the course of this evaluation. To this end there follows descriptions, based on a variety of sources, of the roles played by the Regional Technical Colleges, the DIT, Vocational Educational Committees, and other agencies involved with these programmes including the Department of Education and the NCEA.

Regional Technical Colleges

Technical Colleges have existed in Ireland since the Nineteenth Century. Regional Technical Colleges (RTCs), the first of which was built in 1969, and the six Colleges of Technology located in Dublin (now the DIT) all evolved from the existing structure. The basic remit of these colleges is to educate and train for industry.

The original statutory basis for the RTCs/Colleges of Technology was the VEC Act of 1930. The most recent legislation relating to this sector comprises the Regional Technical Colleges Act, 1992 and the Dublin Institute of Technology Act, 1992. Responsibility for the running of colleges now lies with Governing Bodies made up of representatives of the Local Authority, the academic staff, the student body and the Irish Congress of Trade Unions as well as members nominated by the local VEC. The latter should be representative of industry, agriculture, commerce, the professions or other interests as appropriate to the college's activities. Colleges are headed by a Director and are usually divided into three Schools, business, engineering and science. Schools can, in turn, be divided into individual departments. The awards offered by such colleges can range from One Year Certificates through to Masters and Doctorate degrees. In general however the bulk of activity in RTCs relates to One and Two Year Certificate courses and National Diploma courses, the areas covered by MLT and HTBS.

Application procedures for the RTC sector have changed substantially in recent years with the objective of ensuring that students do not have to make multiple applications. The Central Applications Office (CAO) was established in 1976 to process applications centrally for admission to undergraduate courses in universities and other colleges in an efficient and equitable manner. A new organisation, the Central Applications Service (CAS) was set up in 1990 to provide a similarly centralised application service for technological colleges. Its membership is representative of the DIT and the eleven Regional Technical Colleges. The CAO and CAS entered into an arrangement in 1990 whereby applicants, using a single application form, may choose from the entire range of choices in the CAO/CAS systems.

Most technological colleges have a specific remit or specialisation, i.e. they are "centres of excellence" in a particular field. Thus Athlone RTC specialises in polymers, Galway in catering, Waterford in business, Sligo in tool-making and Kevin St. in opthalmics. Many colleges maintain links with State agencies such as FÁS and CERT and run courses which build upon training provided by such agencies, e.g., FÁS's regional training centre in Athlone runs courses in polymer setting and the local RTC provides more advanced training in the same field.

Some colleges have set up Innovation Units or Business Incubation Centres. In Letterkenny RTC, for example, six Business Incubation Units have been set up. Those submitting projects for these Units are asked to make as much use as possible of college facilities. Projects tend to originate from industries in the region who wish to further develop their products or processes or research new projects. Similarly, in Bolton St. College of Technology a Product/Project Development Centre has been set up to support young graduates who wish to develop their project work towards commercial exploitation. A Building Information Centre has also been set up in Bolton St. to provide information services to the Irish Construction Industry. Centres such as these are supported by the ERDF through EOLAS, the Irish Science and Technology Agency or through a variety of EC-wide R & D Education programmes. Most EC programmes require transnational and industrial partnerships. Participation in such programmes, e.g., Comett, Brite/Euram, BCR and C-Star, leads to the development of contacts with European industry which can be of great benefit to the college both academically and in terms of creating an awareness of the wider labour and skills markets.

Each college has an Industrial Liaison Officer funded by EOLAS under the Science and Technology Sub-Programme of the Industry and Services Operational Programme and therefore supported by the ERDF. The ILO's role is to identify the training needs of local industry and arrange on-site training in industry or college based training. He should be aware of all research and consultancy services available within the college and its affiliated institutions. He should also maintain close contact with State agencies such as the IDA, FÁS etc. The future of the ILO positions in RTCs is presently a matter for discussion as EOLAS originally agreed to fund them only on a one year pilot basis. The pilot period came to an end at the end of 1992 but EOLAS has agreed to fund the positions for a further six month period. By the end of that time the Department of Education hopes that a decision will have been reached as to whether the posts should continue. The recent legislation on RTCs/DIT places considerable emphasis on the role of Industrial Liaison Officers.

The new legislation - the Regional Technical Colleges Act, 1992 and the Dublin Institute of Technology Act, 1992 - will bring about significant changes in the way in which colleges are administered. Some of these have already been mentioned. Others include the following:

- ❑ Colleges will have greatly increased autonomy and much greater responsibility for their day to day affairs. VECs, by contrast, will play a greatly reduced role in the administration of the RTC sector.
- ❑ Colleges will be responsible for the management and administration of their own budgets.
- ❑ Colleges will have more responsibility in the selection and employment of college staff than was the case in the past.
- ❑ New management structures will be developed in colleges to cope with the changes outlined above.
- ❑ The role of Academic Councils will be enhanced.
- ❑ The capacity of colleges to engage in research and development with industry will be greatly increased. This will include participation in limited liability companies to exploit any research, consultancy or development work undertaken by the college.
- ❑ Colleges will be required on an annual basis to submit to the VEC and the Minister operational programmes for the two following academic years.
- ❑ Colleges will be required to submit an Annual Report to the Minister for Education at the end of each academic year.

These changes will have a major impact on the colleges concerned. A certain period of adaptation will be necessary before the implications for the training provided in the colleges can be assessed. The colleges are, however, clearly going through an important period in their development.

Dublin Institute of Technology

The Dublin Institute of Technology consists of the five former Colleges of Technology located in Dublin and the College of Music, Chatham Row. The latter is the only part of the DIT where ESF funded courses are not run. The complete list of colleges making up the DIT is as follows:

College of Catering, Cathal Brugha St.

College of Commerce, Rathmines

College of Marketing and Design, Mountjoy Square

College of Technology, Bolton St.

College of Technology, Kevin St.

College of Music, Chatham Row

The DIT was established in 1978 by the City of Dublin Vocational Educational Committee to co-ordinate the work of its six colleges. Its awards have attained widespread recognition. The recent Dublin Institute of Technology Act, 1992 establishes the DIT as a single institute and confirms its capacity to make its own academic awards. This situation arises partly for historical reasons. The DIT had conferred its own awards prior to the establishment of the NCEA (see below for a description of the functions of the NCEA). With the setting up of the Council it was agreed that the DIT should continue to grant awards in some instances. Even before the introduction of the recent Dublin Institute of Technology Act, therefore, many awards in the Dublin Colleges of Technology were conferred by the DIT while some courses led to awards conferred by both the NCEA and the DIT. (By contrast most of the courses in RTCs are certified only by the NCEA.) The DIT Act, 1992 which came into force on January 1, 1993 formalises the DIT's role as a national awarding body. It is empowered to confer diplomas, certificates or other educational awards other than degrees. Courses in the DIT are reviewed and assessed annually by a panel of external examiners. Some of these are drawn from other countries to ensure the international recognition of the Institute's awards.

In 1976 the City of Dublin VEC and the University of Dublin (Trinity College) entered into a formal agreement by which degree awards of the University with Honours classifications are available to graduates of the College who successfully complete courses in specific areas. This allows MLT/HTBS graduates in the DIT colleges to move easily into well-regarded degree programmes.

Vocational Educational Committees.

The Vocational Education Act of 1930 provided for the setting up of thirty eight Vocational Educational Committees whose remit included the provision of vocational and technical education in their respective areas. Since that time they have played a major role in the expansion and development of vocational education throughout the country. Vocational Educational Committees in each region are made up of both elected members and appointees. Their functions include the provision and management of vocational schools, the employment of managerial and teaching staff, and the provision of vocational and continuation education. In the past most administrative functions in respect of the Regional Technical Colleges were performed by VECs. Under the recent legislation relating to the RTC sector however more responsibility for such functions has been allocated to the individual colleges. The personnel, registrar and financial functions, for example, are now the responsibility of colleges themselves. This will mean a more limited administrative role for VECs in the future.

Role of the Department of Education

The Department of Education has ultimate responsibility for both MLT and HTBS. Funding for both was originally provided by the Department of Education through the Vocational Education Committees but under the terms of the new legislation funding will go directly to colleges. The Department monitors programme quality and co-ordinates the returns submitted by the various bodies in respect of the programme. It also has a formal role in the approval of appointments of teaching staff. Course standards are validated by the NCEA.

The Department determines policy for MLT and HTBS. It sets out regulations which are sent to all relevant institutions along with guidelines as to how claims for ESF funding under the programme should be made. The regulations are set out under four headings: Course Requirements, Eligibility of trainees, Payment of Allowances, and Level of trainee allowance/residential requirements.

Regulations

Some of the more important regulations are as follows:

i) Course Requirements

Courses are required to meet the following criteria:

- to be vocationally oriented towards the fields of industry, business, technology or financial services;
- to be geared towards providing the skills necessary to carry out one or more specific types of employment including those skills necessary to meet labour market requirements arising from technological change and developments;
- to be of one, two or three years duration and include forty hours devoted to training broadly related to new technologies.

ii) Eligibility of Trainees

All EC nationals in the following categories are eligible for admission to the programmes:

a) the unemployed (including young people who have completed the compulsory education period), and
b) people at risk of unemployment.
Persons pursuing degree level courses are not eligible for admission.

iii) Payment of Allowances

In the past all trainees selected for the programme received free tuition and a maintenance allowance the level of which was decided at the beginning of each training year. Since September 1992 onward however, the maintenance allowance has been awarded only to those students who satisfy the Department of Education's means test requirements. The maintenance allowance consists of a higher and lower rate depending upon the place of normal family residence of the trainees. In 1991, for example, a grant of £15.58 (full attendance) a week was available to students whose home was within fifteen miles of the college. A grant of £39.14 (full attendance) was payable to other eligible students. Since September 1992 maintenance grants have been subject to means testing. The means tests are applied on the same basis as those under all other student grant schemes, including the VEC scholarship and Higher Education Grant schemes and thus bring all such schemes into line.

Claims for Assistance

The Department also issues guidelines for colleges in respect of claims under the MLT and HTBS programmes. The guidelines cover Eligible Costs and Apportionment Technique. A summary of the information contained in the guidelines is set out below.

i) Eligible Costs

Costings for the programmes are calculated by applying an apportionment factor to costs drawn from the college ledger. The rationale for this approach is that the instruction staff in the various colleges are not engaged exclusively on MLT/HTBS courses, nor are college facilities used exclusively for these courses. Hence an apportionment factor must be applied. ESF may only be claimed against the Exchequer-funded element of the programme costs.

ii) Apportionment Technique

Colleges are asked to apply two apportionment factors, the Programme Hours Apportionment Factor to apportion relevant costs within a college to a particular programme and the Out of Centre Apportionment Factor which is used in conjunction with the first factor to arrive at the cost of VEC head office operations to a programme.

It is clear that the Department plays a major role in relation to the funding aspect of both MLT and HTBS. It also plays an important role in laying down the initial guidelines on the basis of which the programmes operate. Returns from the colleges are submitted to the Department in February of each year. More recently it has begun to compile figures in respect of teaching hours per annum per student (T.H.A.S) in order to measure the relative efficiency of colleges and schemes. Where course quality in general is concerned the NCEA and DIT, rather than the Department, have chief responsibility.

Role of the NCEA

Assessment and certification of most courses under both MLT and HTBS is the responsibility of the National Council for Educational Awards. As was noted earlier, the Green Paper proposes that the work of the NCEA be incorporated into a new statutory body - the Council for Educational and Vocational Awards - which would provide a national framework for assessment, certification and progression for all vocational training delivered both by the education and training agencies. More recent proposals in the Programme for a Partnership Government (January 1993) make recommendations for further change. For the present however the NCEA continues to operate as outlined below.

The NCEA was established in 1972 on an ad hoc basis and it became a statutory body when the NCEA Act, 1979, came into effect on 16 July 1980. The setting of standards is an essential element of the Council's role - particularly in regard to content of courses, assessment systems and institutional resources and organisation.

The specific functions of the NCEA are as follows:

- ☐ To encourage, facilitate, promote, co-ordinate and develop Higher Education outside the Universities.

☐ To approve and recognise courses in designated institutions.

☐ To grant and confer National Awards on students who successfully complete approved courses.

☐ To co-ordinate course development within and between institutions.

☐ To advise the Minister for Education in relation to the cost of providing courses.

Organisation

The Council is appointed by the Minister for Education and consists of twenty three members drawn from the educational, scientific, industrial, agricultural and cultural life of the community. Much of its work is carried out through a Committee structure. In addition it appoints Boards of Studies to advise on matters relating to course approval and recognition in broad study areas. The members of the boards are drawn from diverse academic and industrial backgrounds. The Council also appoints Boards of Assessors for the detailed evaluation of courses, and Extern Examiners for the monitoring of student performance.

Since its establishment in 1972 the NCEA has recognised over 400 courses. It grants awards at levels from one year certificate to PhD. It is however only in relation to its role in respect of ESF funded One Year and National Certificate courses and National Diploma courses that this report is concerned.

The Council can consider applications for approval of courses only from Institutions which are named in the NCEA Act of 1979, or which have been designated by the Minister for Education. There are over 38 designated institutions at the present time but only 17 of these operate MLT or HTBS courses.

Monitoring Procedures

The basic tools employed by the Council in its capacity as monitor of course standards are its course approval procedures and the Institutional and Programmatic reviews which it carries out on a regular basis. The focus of Institutional Review is on the Institution as a whole, its mission and goals, strategic planning, staffing and other resources and general operating environment. Programmatic reviews focus on courses previously approved by Council and courses of long standing which have been approved by an acceptable validating or crediting authority. The combination of strict course approval procedures and institutional and programmatic review provides the Council with comprehensive mechanisms for monitoring standards and quality.

Course Approval

The Council's functions in relation to course approval lie principally in the area of specification and quality control of standards. General guidelines are issued to colleges in respect of course design. The Council encourages institutions to focus on factors such as course aims and objectives, teaching/learning strategies, evaluation of student performance etc.. The Council is especially concerned that approved courses should offer the prospect of definite employment and career opportunities. It requires that research prior to the submission of a course for approval should identify, as precisely as possible, the career paths of students completing the course.

Institutional Review

The Institutional Review is a joint Institution-Council process, the basis of which is an Institution Self-Study leading to dialogue with the Council with a view to developing an overall plan for enhancing institutional quality. It is intended that the outcome of such reviews, which take place every four/five years, should be an action-oriented plan, linked to institutional resourcing and resource allocation, and capable of subsequent evaluation of progress against targets. The review progress is designed to provide the Council with a framework for satisfying itself as to the quality of the Institution's work and as to the facilities available at the Institution. Cost effectiveness receives particular emphasis.

Programmatic Review

The Programmatic Review focuses on courses previously approved by Council and courses of long-standing which have been approved by an acceptable accrediting authority. The emphasis of such reviews is an evaluation of quality and flexibility of response to changing needs. The review centres on the development of the courses over the previous five years and of the projections for the succeeding five years.

The principal objectives of the Review are to analyse the effectiveness and efficiency of each of the courses approved and to review courses in the context of the Institution's response to influences from the world of work and education. Physical facilities, links with industry and research activities are all taken into account.

Overview

The above description of the role played by the main agencies involved in the MLT and HTBS programmes provides a degree of insight into how the programmes operate in practice, the type of quality control procedures which are observed and the division of responsibilities which exists. In order to obtain a more detailed insight however individual colleges were visited and a series of meetings held with members of staff. The results of these visits are discussed generally in Chapter 7, and on a more specific case study basis in Chapter 8.

5. TRAINING OF TRAINERS

New procedures for the training of trainers in the RTC sector have recently been put in place, influenced to a large degree by the introduction of the Sub-Programme for the Training of Trainers in the Operational Programme for Vocational Training Infrastructure. The OP for Vocational Training Infrastructure is largely funded by the ERDF and aims to meet the most urgent needs for the development of training infrastructure in Ireland. Among the measures presently being funded in the RTC sector are provision for the construction of a new RTC in Tallaght, Co. Dublin, new premises for the DIT Colleges of Commerce and Marketing and Design in Bishop St. new accommodation and facilities in the College of Catering, Cathal Brugha St. and a general programme of rationalisation and capacity enhancement for the Regional Technical Colleges. The Training of Trainers Sub-Programme of this Operational Programme is funded by the ESF and aims to improve the quality of trainers who are involved in the delivery of training measures linked to the capital investment which is being undertaken under the OP.

Prior to the availability of ESF funding for the training of trainers, the various colleges did have a commitment to staff training but the Department of Education admits that it was a lot less structured than is now the case. The recent introduction therefore of a set of modularised courses which have been designed to meet the most urgent needs of trainers in RTCs and which allow for an "across the board" approach to such training has been a welcome development and one which was considerably assisted by the introduction of the Training of Trainers Sub-Programme.

The Sub-Programme is designed to enhance the skills of training/instruction staff in training institutes funded by the Department of Education, FÁS and CERT. One measure of the sub-programme caters for the provision of both

i) pre-service courses for the staff of the new Regional Technical College in Tallaght, and
ii) in-service training for existing staff in RTCs who are directly involved in the delivery of training programmes relevant to the economic objectives identified in the CSF.

Expenditure in 1991 was below target because there was a delay in the appointment of staff to the new RTC in Tallaght and preliminary work in devising and developing training courses for trainers in the RTC sector took longer than expected. It is thus really only in 1992 that activity under this measure commenced fully. The circular letter from the Department of Education announcing details of the ESF-aided Training of Trainers

Scheme and its implications for the VEC sector was issued in May of 1991. The circular indicated that colleges themselves should be involved to the greatest extent possible in devising and developing the programme of staff development. A steering committee was established to lead and manage the project.

Two main kinds of courses were envisaged:

i) Courses established nationally for graduate-level staff which would address identified training needs throughout the system in new and developing subject areas, and
ii) Courses for staff with other than degree qualifications which respond to training needs specific to a single college or group of colleges.

A structure was devised whereby national courses including masters and degree level courses would be set up based on modules of a specified duration. Colleges were also invited to submit proposals for short strand courses aimed at providing training for new technology acquisition or techniques for further dissemination of such skills among the college staff. Lists of both short strand and masters courses run in 1991/92 and those approved for 1992/93 are given below.

TRAINING OF TRAINERS
ESF AIDED STAFF DEVELOPMENT SCHEME
DIT AND RTCs

	No. of Participants	Duration of Course (Hours)
Short Courses Run 1991/92		
DIT, Bolton Street		
1. Ground Modelling Systems	13	33
2. Information Technology for Technologists	36	75
3. Autocad I	16	81
4. Autocad II	16	78
Cork RTC		
1. Introduction to Recombinant DNA Technology	18	25
2. Autocad for Engineering and Automation	20	64
3. Introduction to Computing for Construction	20	60
4. Surveying Technology	20	30
Galway RTC		
1. Advanced Manufacturing Operations and Technology	20	75
2. Computer Aided Engineering Education	12	75
Athlone RTC		
1. Robotics in Education	8	18

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TRAINING OF TRAINERS
ESF AIDED STAFF DEVELOPMENT SCHEME
DIT AND RTCs

	No. of Participants	Duration of Course (Hours)
Short Courses Run 1991/92		
Dundalk RTC		
1. Introduction to Computer Programming	40	75
Letterkenny RTC		
1. Information Technology Skills Course - Unit I	18	80
Carlow RTC		
1. Computer Techniques	30	105
2. Computer-aided-draughting	17	80
Short Courses Approved for 1992/93		
DIT, Bolton Street		
1. Information Technology for Senior Staff	20	75
2. Introduction to Autocad	20	75
3. Advanced Autocad	20	75
4. Computer Programming	20	75
DIT, Rathmines		
1. Introduction to Mackintosh (2 Courses)	20	12
Tralee RTC		
1. Staff Development Course	24	24
2. Basic Computer Skills	52	40
Dundalk RTC		
1. Windows 3.1 and Applications	30	20
2. Database Management System	12	30
3. Introduction to Computer Programming	20	28
4. Statistics for Science, Engineering & Business Studies	15	60
Carlow RTC		
1. Electronic Circuit CAD	14	60
2. Foundation Course in Microbiological Techniques	12	40
3. ISO 9000	16	60
4. Intensive French/German for Academic Staff	14	120
5. Advanced Computer Technology	12	75
6. CAD Design and System Management with Autocad	12	80
7. Computer Techniques	12	75
8. Graphics and DTP for Teachers of Secretarial Skills	12	80
Total Participants	661	

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TRAINING OF TRAINERS
ESF AIDED STAFF DEVELOPMENT SCHEME
DIT AND RTCs

	Module (75 Hours)	**No. of Participants**
Masters Programmes Run 1991/92		
DIT, Bolton Street		
1. Software Engineering; Advanced Engineering Techniques (AET)	UNIX & Engineering Workstations	21
DIT, Rathmines		
1. Management in Education	Interactive Multimedia in Ed.	12
Carlow RTC		
1. Technology & Enterprise: AET	Implementing a CIM's Strategy	10
Galway RTC		
1. Software Engineering; AET	Real Time Systems Engineering	15
2. Advanced Engineering Techniques (AET)	Dynamic Modelling Control Prog.	13
Waterford RTC		
1. Software Engineering; Multimedia & Design	Graphical User Interfaces	12
2. Advanced Techniques in the Sciences	Advanced Chromatographic Instrumentation	8
3. Advanced Techniques in the Sciences; AET	Electronics for Non-Electronics Disciplines	8
Masters Programme Approved for 1992/93		
DIT, Bolton Street		
1. Software Engineering; Multi-media & Design	UNIX & Engineering Workstations	28
DIT, Rathmines		
1. Multimedia & Design	Digital Imaging & Production	12
2. Multimedia & Design & Education in Management	Interactive Multimedia	11
DIT, Mountjoy Square		
1. Management in Education	Strategic Planning	17
Cork RTC		
1. Technology & Enterprise	Marketing for New Product Dev.	16
2. Advanced Techniques in the Sciences	Total Quality Management	15
Galway RTC		
1. Software Engineering	Real-Time Systems	8
2. Technology & Enterprise	New Enterprise Management	13
3. Advanced Techniques in the Sciences	Computerised Instrumentation	10

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TRAINING OF TRAINERS
ESF AIDED STAFF DEVELOPMENT SCHEME
DIT AND RTCs

	Module (75 Hours)	No. of Participants
Tralee RTC		
1. Software Engineering; Multimedia & Design	Graphical User Interfaces	16
Sligo RTC		
1. Advanced Techniques in the Sciences	Environmental Management	15
Athlone RTC		
1. Multimedia & Design	Graphic Design	9
Waterford RTC		
1. Multimedia & Design	Audio Design	16
2. Management in Education	Human Resource Mgnt in Ed	20
Total Participants		305

In addition to the Masters Strand and Short Course Strand colleges may also participate in a Technology Degree Strand and a Higher Degree Strand. The Technology Degree Strand aims to provide an NCEA Technology degree for lecturers working in areas that have recently undergone rapid technological change. This strand is not as yet fully operational. The Higher Degree Strand permits lecturers in colleges with training requirements not available in the other strands to avail of certified post-graduate studies at other colleges and universities. Participant support is in the form of a contribution to course fees. In the case of much of the activity under this sub-programme, the Department of Education is still awaiting reports from the various colleges as to its success. However, the Department does say that the sub-programme has been instrumental in improving interaction between the Universities, the RTCs and the DIT. The development of the programme for the training of trainers has, says the Department, contributed to the dissemination of new technology and advanced skills over a much wider sector of interest than would have been possible without the programme. The Department also reports that all of the colleges involved in the programme have commented favourably on the contribution the programme has made to the development of more structured staff training programmes than had existed in the past. More information on the reaction of colleges to the programme is contained in the section based on interviews with college staff. However, while the feedback to date on the Training of Trainers Sub-Programme is positive, the scheme is limited and will only go some way towards tackling the problem of insufficient training of academic staff. This is an area which has been long neglected, primarily due to a lack of resources. In consequence much more needs to be done both in terms of resource allocation and creating opportunities for trainers to avail of training.

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6. DEVELOPMENTS IN CERTIFICATION

The issue of certification is currently the subject of considerable debate. At present a large number of organisations are involved in certification, including the Universities, the National Council for Educational Awards, the National Council for Vocational Awards, FÁS/City and Guilds, the Department of Education and others. These organisations can be broadly divided between those which certify on the basis of knowledge gained, i.e., education based certification, and those which certify skills and competence. The present debate revolves around the possible amalgamation of these two streams and the development of a unified system of certification which would allow for progression through all levels of the education and training system.

The Green Paper (June 1992) proposed a new Council for Educational and Vocational Awards (CEVA) to take over the functions of the NCVA, which certifies second level, and the NCEA, which certifies third level, vocational awards. The proposal aimed to establish a common certification system with international standing for all levels and aspects of vocational training. This proposal has been superseded however by the undertaking in the Programme for a Partnership Government (January 1993) and the Moriarty Report (May 1993) to establish a National Education and Training Certification Board to "help progression between courses in the education and training systems". The precise remit of the NETCB has yet to be decided but will obviously have consequences for the role presently played by existing certification bodies, including the NCEA and DIT.

The whole area of certification and quality assurance is clearly presently undergoing a transformation. The consultation period on the Green Paper has been extended and the various proposals which it makes in respect of quality assurance are still under consideration. These include, as outlined in Chapter 2, the establishment of an Academic Audit Unit within the Higher Education Authority with responsibility for ensuring that adequate quality assurance procedures are in place in all educational institutions. The Paper also suggests broadening the HEA's role such that it is actively responsible for the co-ordination of both the RTC and University sector. This would include ensuring a balance of level, type and variety of programmes and awards across the two sectors. The Green Paper also reports on the establishment of a joint working group to develop appropriate performance indicators for the university sector and envisages that indicators for the non-university colleges will be developed in a similar fashion. Further proposals in respect of certification are to be found in the Moriarty Report, e.g., basing training and certification standards on best international practice and moving away from old standards based on the UK system.

At this point, therefore, a number of proposals are on the table which may result in considerable changes to existing certification and quality assurance procedures. The directions in which these proposals presently seem to point are:

- improved opportunities for progression between courses in the education and training sectors;
- increased co-ordination of the university and non-university sectors;
- the development of improved performance indicators for higher education generally;
- and a move towards certification standards based on best international practice.

It will be some time before the final picture emerges. When assessing the certification and quality assurance aspects of MLT and HTBS, however, it is necessary to be aware that such changes may occur.

7. MLT/HTBS IN PRACTICE

A report based on interviews with RTCs

In order to understand precisely how these measures operate on the ground and to investigate the various issues raised in more depth interviews were conducted with five of the colleges involved. The colleges were selected at random and were as follows:

The College of Commerce, Rathmines

The College of Technology, Bolton St.

Carlow Regional Technical College

Cork Regional Technical College

Sligo Regional Technical College

The information obtained in the course of these interviews is set out below in general terms. A more specific case-study type approach is then taken for two colleges, to highlight individual experiences and to allow for a more detailed analysis of figures collected by individual colleges.

Course Approval Procedures

Up to the end of 1992 courses were submitted for approval to both the Department of Education and the NCEA. The new legislation for RTCs and the DIT which came into force on January 1, 1993 has changed this situation and courses are now submitted for approval only to the certifying body, i.e., the NCEA or DIT. The Department of Education no longer approves courses on an individual basis but instead reviews the overall two yearly operational programme which each college is now required to prepare. This allows the Department to monitor the broader picture in each college but leaves the detailed aspects of course approval to the NCEA and DIT. Colleges generally welcome these new arrangements. Applications for funding will continue to be made to the Department of Education on an annual basis.

Liaison with the Department of Education/Recording Procedures

The Department of Education's role concentrates largely on the co-ordination of the funding aspects of courses. The delivery and evaluation of courses are the responsibility of colleges and the NCEA or DIT.

Details of throughput are sent to the Department of Education in October/November of each year. Figures are based on the number of students enrolled on each course on 31 October. Figures submitted are broken down by year and ESF grant category. Colleges are also required to submit the number of students projected to be enrolled on the course the following year. Before the commencement of the academic year the Department informs each college of the resources available to them and the number of approved places. There is usually some flexibility in respect of the latter.

In recent years colleges have been asked to supply the Department with figures on Teaching Hours per Annum per Student (THAS). This is a measure which can be used by the Department and colleges themselves to assess cost effectiveness. The Department's objective is to develop clear and accurate information on student numbers and teaching resources which can be used for analysis of THAS efficiency and as a basis for evaluating college resource requirements. Opinions on THAS vary from college to college. Most of those interviewed in the course of this evaluation welcome the introduction of THAS. It is considered to be a useful management tool and certainly the best yardstick which has been devised to date for comparison of resource utilisation. However, even those with positive perceptions of THAS express some reservations. Representatives of one college point out that it is not a sufficiently sensitive measurement in that it equates the teaching needs of first year students with those of postgraduate students. Others, while welcoming the theory behind THAS efficiency analysis, are not confident that decisions on resource allocations are as yet actually based on THAS returns. This uncertainty makes them question the value of the time spent making such detailed returns to the Department of Education. Such colleges express the view that new funding arrangements should be developed for RTCs along the lines of those presently being introduced for Universities, i.e. basing budgets on actual and cost-effective levels of operation. These would be derived from regularly updated unit cost analyses. The development of such a funding model for the RTC sector is proposed in the current Green Paper. Apart from those who feel that THAS could become a more sensitive measurement or that it could be used more constructively, only one college expresses serious reservations about THAS. Staff there feel that THAS imposes constraints on colleges. In order, they say, for a college to become more efficient in terms of THAS needs to either increase student numbers or decrease class contact, neither of which step the college is prepared to take on educational grounds.

The description of MLT and HTBS in the Operational Programme refers to an average of 1260 and 960 instruction hours per trainee per annum respectively. Of this 60% was to be practical and 40% theoretical. When asked to comment on these figures colleges indicated that the number of hours of direct teacher/student contact is less than the figures suggested, but that if project work, study time etc. is also included - i.e. total student participation - then the figures are reasonably accurate. The 60% practical to 40% theoretical breakdown is felt to be achieved for the most part. All RTCs visited place a strong emphasis on practical work. While the ratio is less easy to quantify in the case of courses such as Business Studies even there a strong practical orientation could be discerned in the computer/IT elements of courses.

Cost Apportionment/Links with the VEC/New Legislation

Colleges have in the past had little involvement in the apportionment of costs or in the submission of claims for ESF funding. This was always the responsibility of the local VEC. The Dublin VEC, for example, performed three functions for the DIT:

i) they claimed student fees and maintenance grants from the Department of Education;

ii) they paid grants to students via the payroll system; and

iii) they finalised claims for ESF funding on the basis of information supplied by colleges.

The colleges supplied numbers of students, teaching hours and teacher details. The VEC then executed the cost apportionment procedure on the basis of the regulations laid down by the Department. These procedures have, however, changed entirely under the new legislation for RTCs and the DIT. Now the colleges will apportion costs and submit final claims. The colleges visited all welcome this change and look forward to having more direct input into financial areas. The changes will also add to the administrative load of colleges and those interviewed express the hope that the proposed staff increases will be adequate to meet the needs. The Institute of Public Administration has been commissioned by the Department of Education to conduct research into the effects of the new legislation. Colleges hope that its recommendations will include substantial staff increases.

Certification/Quality Control

Colleges themselves are happy with the certification provided by both the NCEA and DIT. The degree of quality control exercised by these bodies is considered satisfactory and colleges generally seem happy with the programmatic and institutional review processes.

The DIT particularly welcomes the provision in the recent Dublin Institute of Technology Act 1992 which confers the status of awarding body on the DIT. As mentioned earlier the DIT has historically had a role in conferring certificates and diplomas but while these were widely recognised they did not have official status other than that of college certificate. The statutory formalisation of their position is welcomed by the DIT. DIT representatives point out that its course review procedures are well-established and sufficiently rigorous to maintain standards.

All those interviewed feel that the qualifications conferred by the NCEA and DIT equip students to gain employment and to meet the standards required by employers in the workplace. A number of those spoken to do, however, see scope in the future for an increase in the internal quality control function carried out by colleges themselves. All colleges engage in some internal monitoring of quality. Each has an Academic Council which conducts an internal audit of quality on an annual basis and appoints external examiners. The new legislation will enhance the roles played by these Councils. Some colleges interpret the legislation to mean that colleges will have greater academic as well as financial autonomy. They envisage that, in the longer term, the role of individual colleges in the quality control area will increase.

While generally happy with the procedures employed by the NCEA, some colleges point to areas of weakness. Programmatic reviews, for example, are less effective than Institutional Reviews because, in concentrating on individual schools (business, science etc.), they miss out on the overlaps between them and the extent to which one complements or feeds into the other. One view is that, as the internal quality control function of colleges increases, the NCEA will abandon Programmatic Reviews and come to concentrate instead on the five yearly Institutional Review process.

These views notwithstanding all colleges accept the continuing need for independent monitoring bodies and recognise the benefits which NCEA and now also DIT certification can bring. Such certification gives a national dimension to college qualifications and facilitates transfers between RTCs and into the University sector. It also facilitates graduate movement into other EC countries. This is increasingly important following the implementation in 1991 of the EC Directive on the recognition of higher education diplomas for professional purposes. Under the Directive a person who obtains a qualification for a profession in one Member State may now practice that profession in another Member State.

In addition to NCEA and DIT certified courses many colleges also run a small number of courses which are approved by professional bodies. Generally speaking such courses provide significant exemptions to the examinations of the relevant professional body. In some cases the courses are approved jointly by the NCEA and the professional body. This means that, in addition to having the opportunity to sit professional examinations, course graduates are holders of a National Certificate or Diploma. In the majority of such cases however the course is approved only by the professional body. As a rule the college provides students with a college certificate on the basis of which exemptions from professional examinations can be obtained. Course standards are monitored by the relevant professional body and the final qualifications are widely recognised. Professional bodies visit colleges on average every three to five years to discuss issues such as course standards, quality and relevance.

Professional qualifications have a number of advantages. Colleges feel that by running such courses in parallel with similar NCEA certified courses they offer students a choice between the "fast-track" route directly into a profession and a more general route which allows the choice of specialism to be taken at a later stage. Cork RTC, for example, offers both NCEA qualifications in Business Studies and professional accountancy courses which are validated by the Chartered Institute of Management Accountants, the Institute of Chartered Accountants in Ireland and the Institute of Certified Public Accountants in Ireland. Students sitting for the more general NCEA qualifications can seek certain exemptions for professional accountancy examinations later. Others will choose instead to go into marketing, personnel etc.. A second advantage to running professional qualifications is that it ensures that course material is up-to-date. Professionally recognised courses must incorporate professional developments in legislation. Hence courses are constantly being updated, even mid-year if this is necessary to ensure students are fully prepared for the coming examinations. Contact with professional bodies also ensures that colleges are kept in regular contact with the profession/industry in question. A final advantage of running professional courses is that they are seen to be prestigious and to enhance a college's general reputation.

In addition to running courses leading to professional examinations colleges often also act as examination centres for other external examiners such as the City and Guilds of London Institute and the Department of Education. Students are thereby given the opportunity to acquire dual qualifications, e.g., students studying to become laboratory technicians may sit both NCEA and City and Guilds examinations. This can be especially important for students who intend working in the UK. Possessing an immediately recognisable UK qualification such as a City and Guilds Certificate on top of an NCEA qualification continues to be a considerable advantage, notwithstanding ongoing moves throughout the EC toward the mutual recognition of qualifications.

A number of colleges run courses which lead to a college certificate, i.e. a qualification awarded by the individual college rather than by the NCEA or DIT. Many of these courses pre-date ESF funding and, in some cases, even the establishment of the NCEA. The trend is to submit such courses to the NCEA and DIT for formal certification. The impetus for this is the recent RTC/DIT legislation placing a statutory obligation on colleges to seek certification from the NCEA, DIT, Universities or authorities specifically approved by the Minister. Some College Certificates do still exist however. Some such Certificates are often stepping stones for students who intend going on to sit professional examinations. However, a number are end qualifications in themselves, e.g. the College Diploma in Technical Sales in Carlow RTC and the College Diploma in Automobile Engineering in Cork RTC. The issue of College Certificates was mentioned in the earlier review of the Lindsay Report. The lack of independent certification must inevitably prompt questions about course standards and recognition. The fact that such certificates are becoming increasingly rare renders these questions less serious. However, that any such qualifications exist is an issue for concern and would appear to run contrary to the certification provisions in the new legislation. The Department of Education is aware of this issue and is presently conducting an audit of courses for which special provision may need to be made to ensure they conform to the requirements of the legislation. This includes exceptional courses such as the Certificate in Marine Radar Maintenance which is certified by the Department of Communications or the Marine Seaman/Engine Operator Certificate awarded by the Department of the Marine. This exercise will need to be completed before the total picture as regards certification in RTCs can become clear.

Industry Links/Course Relevance

The NCEA, when conducting reviews, assesses course relevance. The general consensus among colleges is that the best guarantors of course relevance are the informal mechanisms employed by colleges themselves. A number of mechanisms which operate in the RTC sector to strengthen links with industry and thereby enhance course relevance are outlined below.

The most straight forward mechanism operating within the RTC sector to promote links with industry is the post of Industrial Liaison Officer. Fourteen Industrial Liaison Officers are presently employed throughout the sector. In most cases there is one ILO per college but in the case of the three smaller Dublin colleges now incorporated within the DIT one ILO serves all three. The ILO framework is co-ordinated by EOLAS and is one of three specially devised ERDF funded programmes operating in RTCs. All are funded under the Science and Technology Sub-Programme of the Industry and Services OP (the other two programmes are the Applied Research Programme and the Science and Technology Service Centre Programme) and have the specific objective of enhancing the capability of RTCs to engage in problem-solving for industry. The ILO programme was originally designed to further develop activities under the Applied Research programme but the positions have since taken on the broader function of expanding links with industry generally and thereby assuring course relevance. Virtually all those spoken to welcome the establishment of Industrial Liaison Officer positions and the majority speak enthusiastically of the improvements which have been brought about in terms of developing links with industry. One or two college spokespersons were, however, anxious that the work done by academic staff in this regard should not be lost sight of, i.e., they see the ILO's role as complementing work already being done rather than breaking completely new ground. Having said this they believe that the creation of the ILO position means that more can be done. ILOs are seen as having a major role in finding additional sources of funding for the college, making grant applications, and drawing up research proposals. One suggestion mooted was that the role be expanded to one of Director of Development. This would confer upon the ILO the additional responsibility of planning for the colleges future development. Opinions in respect of ILOs end to vary depending on the performance of individual post-holders. Some ILOs are more pro-active than others and this colours the perception of the office at local level.

Research and development activities within colleges have also contributed to the increase in colleges industry links. Funding via various national and EC programmes has resulted in major expansion in this area in the RTC sector. The Applied Research Programme mentioned above, for example, has funded 327 projects since 1989. Under these projects RTCs carry out applied research on behalf of and in conjunction with local industry. Some colleges would have engaged in problem-solving for local industry in any event but additional funding has allowed for a major expansion of this role. The Science and Technology Service Centre Programme, has also facilitated a considerable increase in R & D activity in colleges. This programme is designed to assist RTCs to operate as "technology nodes" for industry through the establishment of S and T Service Centres in selected RTCs. Cork RTC, for example, has three such centres - the Clean Technology Centre, the Centre for Advanced Manufacturing and Management Systems and the Nautical Enterprise Centre. A complete list of the S and T Centres currently being supported is supplied below. Colleges believe that the steady growth in R & D activities has promoted the establishment of strong, interactive links with local industry, as well as with Irish and overseas Universities and other research organisations. This type of interaction facilitates the systematic transfer of technological know-how into the workplace and at the same time allows academic staff to keep fully up-to-date with their discipline. This in turn enhances the content of their lecture courses. The wider scope to engage in R & D partnerships with industry which is conferred by the recent legislation will encourage further expansion.

ERDF supported S and T Centres

CAD Facility for the Clothing and Fashion Industry	Limerick RTC
Faraday Centre for Electrochemical Technology	Carlow RTC
Centre for Advanced Manufacturing and Management Systems	Cork RTC
Materials Test Laboratory	Letterkenny RTC
Industrial Control Centre	DIT Kevin Street
Product Development Centre	Dundalk RTC
Clean Technology Centre	Cork RTC
Food Product Development Centre	DIT Cathal Brugha Street
Nautical Enterprise Centre	Cork RTC
Toolmaking Research and Advisory Centre	Sligo RTC

In addition to the formal structures outlined above a number of more informal mechanisms operate within colleges to facilitate links with industry and thereby enhance course relevance. Firstly, individual lecturers and Heads of School have ongoing contact with industry. Such contact ensures that colleges are kept abreast of developments within industry and that these are reflected in course content.

Secondly, Colleges which run courses certified by professional bodies meet representatives of these bodies on a regular basis and this, in turn, also ensures high levels of awareness of the needs of industry. One college pointed to how quickly changes in Health and Safety legislation were incorporated into professional courses as an example of this.

A further mechanism whereby course relevance is ensured is through interactions brought about between colleges and industry by work placement schemes. These involve sending students on placement periods for between three and twelve months as part of their training. Students who participate in such schemes bring back information on best practices in the work place, updated technology etc., much of which can be fed into the course where necessary. Similarly, members of the academic staff who visit such students during work placement also develop contacts with industry and pick up information on new developments which can influence subsequent changes in course content. Those colleges who operate work placement schemes could not speak too highly of the benefits they bring in this regard. Unfortunately only a limited number of RTCs engage in such activity (only two of the five colleges visited operated work placement schemes) which means that this particular mechanism for improving course relevance is not universal. The same can be said of international exchange schemes. While these can also bring benefits such as knowledge of best practices in operation abroad, these benefits are again confined only to those colleges who are involved in such schemes.

A number of other informal mechanisms operate which can enhance course relevance. Most colleges have a particular specialism e.g., Sligo RTC specialises in Precision Engineering, Waterford in Business etc.. Where colleges have established a reputation in a particular area individual companies in that field are inclined to make contact and this further promotes course relevance. In the same way the establishment of Business Innovation or Enterprise Centres in some colleges promotes industry linkage which also contributes to course quality. In addition most colleges running MLT and HTBS courses also run courses under the Middle Level Retraining measure (MLRT). This measure is designed to retrain persons employed in industry whose job content has changed as a result of new technology. Some courses run under MLRT will have been designed to meet a company's specific needs and this too can have spin-off effects in terms of the relevance of other courses run in the college. Finally, some colleges point out that the local IDA office often uses the RTC as a selling point for companies considering locating in the area. Where such companies do set up, contact with the RTC is established sufficiently early on to develop a two way exchange of knowledge and personnel. This too can result in more relevant courses.

The various mechanisms outlined above clearly give considerable scope in terms of maintaining links with industry. A related issue must then be how easily changes prompted by these links can be incorporated into existing courses. Colleges generally feel that they have sufficient flexibility to adapt courses in terms of updating material, incorporating changes in legislation etc., on an ongoing basis. Course reviews are usually held approximately every three years. Where a change in emphasis is needed this can be catered for by adding new modules to the original core structure. If substantive changes are required colleges redesign a course and submit it to the NCEA for approval. Some concern was expressed at the length of time it takes to complete the course approval procedure. This is held to act as a constraint on colleges in reacting as quickly as is sometimes necessary to developments within industry.

Placement

All RTCs and the DIT participate in the Higher Education Authority survey on the First Destination of Award Recipients which is described in more detail in Chapter 9. It is co-ordinated for the RTC sector by the NCEA. All colleges have independently noted the trend recorded in the 1991 HEA survey of an increase in the numbers of their graduates seeking employment. They ascribe this to the decline in recruitment generally. This is seen to be a function of the poor economic climate rather than any decline in the need for the training which RTCs provide.

Colleges appear to monitor employer satisfaction with RTC graduates only on an informal basis. Colleges which operated work placement schemes seem to be especially well placed in this regard in that their contacts with industry are particularly strong.

Colleges were asked if they provide any career guidance or placement service for final year students. Most colleges do not have a careers officer. A careers officer has recently been appointed to the DIT, with responsibility for all six colleges. Other colleges expressed the hope that their new found autonomy and, hopefully, increased resources will enable them to move in this direction. At present work of this kind is shared out among members of the academic staff. One college suggested that it would be happy for this situation to continue, as long as adequate funding was supplied to support it. Colleges also point out that, strictly speaking, FÁS's remit as national placement agency extends to the RTC sector. In theory this absolves RTCs from performing a major role in this regard. In reality however FÁS deals with those who register with them on an individual basis and does not take a sectoral approach to any one specific group. As a result colleges are increasingly beginning to recognise a need to move in this direction. The increase in work placement elements in certain courses and colleges is held to be indicative of this.

Uncertified Departures

All of the colleges visited monitor uncertified departure rates. All claim to be aware of wastage levels although only one (Cork RTC) had done a formal survey of attrition rates over a given period. Colleges point out that not all uncertified departures should be viewed in a negative light. Some students leave to take up employment. Other departures are connected with the new application system via the CAO/CAS. (Since 1991 applicants to RTCs no longer apply to individual colleges but, like University applicants, go through a Central Applications System.) Some students, having registered in one college, later leave on receiving a preferred second round offer. Such students will be recorded as uncertified departures. Most colleges agree, however, that the highest levels of uncertified departures are among students who simply find that courses do not suit them. Such departures are a matter of concern to colleges. Having said this the general feeling is that the numbers involved are relatively small. (This is difficult to verify as no college, with the exception of Cork RTC, had done a formal study of attrition rates. Given that the material is not readily available, a comparative study of uncertified departure rates in each college would be a time-consuming exercise and one which is beyond the scope of this evaluation. The NCEA, as mentioned earlier, is presently working on survey of attrition rates but it will be some time before this becomes available). The competition for places in RTCs is so strong that most colleges expect uncertified departure levels to decline.

Colleges were asked whether any steps are taken to reduce the numbers leaving because courses did not suit them. All stated that they run annual open days and career seminars in an attempt to publicise the courses they offer and to inform students of what is involved. Most colleges also accept invitations to participate in careers advice days run in schools. In addition college staff members are always available to answer questions from potential students who contact the college directly with queries. Such students are, however, the exception rather than the rule and most of those interviewed accept that some students make poor course choices for lack of proper guidance. It is simply not feasible however for individual RTCs to interview all applicants. The solution to this particular problem, it was suggested, lies at second level. Assisting and encouraging second level career guidance teachers to provide potential students with more detailed information about what is involved in each RTC course would allow for more informed course choices and hence a reduction in uncertified departure levels.

Training for Academic Staff

The view which emerged in respect of training of trainers was that, while the situation has improved considerably in recent times, there is considerable scope for further development. All colleges speak favourably of the new Training of Trainers sub-programme. Every college visited had run short strand courses under the scheme. All these courses related to new technologies which are specifically targeted by the sub-programme. Some of the colleges were also running modules of Masters courses, which are also provided for under the sub-programme. As with any training of trainers programme, the biggest difficulty encountered by staff is in finding time to avail of training opportunities. Another problem which relates specifically to the Training of Trainers sub-programme is the fact that some administration details have yet to be finalised. Some of the colleges running modules of Masters programmes point out that they have yet to receive information on assessment procedures. Notwithstanding these difficulties colleges generally welcome the Training of Trainers scheme and believe that it has resulted in improvements in staff training.

The Training of Trainers Initiative is, however, a fairly limited scheme. In itself it cannot meet all the training needs of the RTC sector. The increased contacts with industry which work placement schemes involve as well as research supervision undertaken by staff all act as aids to staff development but many of those spoken to feel that a formal structure for staff training in the RTCs should be put in place. One DIT Director, for example, suggests that there should be an integrated staff development policy for the whole of the DIT. A facility whereby staff could take sabbatical leave on part pay to engage in further study is also proposed. Some stress the particular need for pedagogical training while others point to the increased need for management training in light of the increased administrative functions brought about by recent legislation.

Modularisation, Credit Accumulation and Credit Transfer

The RTC sector is presently experimenting in areas such as modularisation, semesterisation and credit transfer. Modularisation involves the reorganisation of study into self-contained units called modules. A module incorporates all of the teaching, study and examinations relating to a specific topic. A course might consist of a series of modules, each of which is examined at the end of the module rather than carried on to the end of the year. The objective is to broaden the scope of programmes by, for example, the provision of technology awareness programmes for humanities students, business related modules for students in technical disciplines and language modules for all students. Modularisation also facilitates transfers between faculties, levels and institutions. Colleges vary in the extent to which they have so far embraced modularisation. Some courses lend themselves to modularisation more readily than others. The long-term benefits are, however, considered to be substantial.

Modularisation and semesterisation are both presently the subject of a pilot project in Sligo and Galway RTCs. Semesterisation entails the division of the academic year into two semesters rather than three terms, with examinations at the end of each semester. Educational institutions in many European countries operate on this basis. To a large extent modularisation and semesterisation are considered to go hand-in-hand.

The introduction of Grade Point Averages is also presently being considered. Points are awarded on the basis of examination results at the end of each semester and combined to give a Grade Point Average for each student. The system is based on the model developed in the University of Limerick and, as with modularisation, is believed to facilitate transfer from one institution to another. Those interviewed in Sligo RTC said that, while semesterisation has proved both successful and easy to implement the introduction of Grade Point Averages has proved more difficult. It is hoped, notwithstanding initial teething problems, that when operating in conjunction with a modularised course structure it will do a great deal to facilitate transfers and exchanges between colleges.

A significant number of RTC students seek to transfer into the University sector, either on completing their diploma or on reaching certificate level. In 1991, for example, sixty two Diploma-level RTC students transferred into degree programmes at the University of Limerick. The University of Limerick was the first of the seven universities to produce a guide for RTC graduates. It has indicated that students with an NCEA Diploma at credit or distinction level will normally be considered for entry to Year 3 of their four year degree programme, while students with a certificate at credit or distinction level would normally be considered for entry to Year 2. The nature of the course the student is transferring to is also taken into account. The University has a particular arrangement with Tralee RTC whereby students holding an Advanced Certificate in Business Studies will gain full exemption from the first two years of the Business Studies degree. Dublin City University has recently also established clear criteria on the basis of which transfers can take place. Most other Universities, however, while accepting RTC students, have not developed formalised systems in this regard. Students apply and are considered on an individual basis. This results in variations across the different colleges. Some informal links appear to be emerging e.g.:

> Cork RTC/UCC Diploma in Business Studies to Year 3 Commerce
>
> Carlow RTC/UCG Diploma in Technology (Industrial Biology) to Year 3 Science

While such links are useful RTCs would welcome greater uniformity. The numbers transferring to the universities from technological colleges remain low (see table below). While this may be because of the large numbers already in the University sector, the RTCs feel that it can, in part, be ascribed to the lack of opportunities in Irish universities for their graduates. This lack of opportunities has, they suggest, been the impetus behind the development of a number of transfer arrangements between Irish and UK institutions. The RTCs are hopeful that in due course one mechanism for transfer along the lines of the model developed by the University of Limerick will be adopted by all universities. While not a prerequisite, it is believed that modularisation and a system of grade point averages will expedite this process. The HEA is presently heading a Committee on Credit Transfer, Modularisation and Access Courses. The Committee's terms of reference include examining transfer arrangements between the NCEA and University sectors. This will include looking at the extent to which modularisation is in place and how it can enhance transferability between courses and institutions. One of the areas which the Committee hopes to consider is the feasibility of adopting the European Credit Transfer System (ECTS) in the Irish context. It will also explore the potential of access courses.

TRANSFERS FROM RTC/DIT SECTOR TO THE UNIVERSITY SECTOR *			
University	**1989**	**1990**	**1991**
UCD	18	9	18
UCC	10	16	25
UCG	24	48	n/a
TCD	2	8	7
UL	51	69	62
DCU	37	34	44
TOTAL	142	184	156

* *Figures supplied by the HEA*

Since 1989 the NCEA has operated a new awards structure entitled Accumulation of Credits and Certification of Subjects (ACCS). ACCS is designed to allow students to study one or more subjects and to receive a Subject Certificate for each subject or group of subjects passed. Credits granted in this way can lead eventually to the granting of a National Certificate or Diploma. Studies may be spread over a number of institutions including those in other EC countries. ACCS caters particularly for adult students who cannot enrol on full-time courses. (It is especially useful for MLRT students). All colleges run courses which are structured to pick up ACCS. Most of the students who benefit from ACCS seem to fall into the part-time adult student category. In 1991/92 750 students out of a total of almost 20,000 attending RTCs or the DIT were registered for ACCS.

There is a discernible increase in exchange arrangements between RTCs and colleges in other European countries. Sligo RTC, for example, has formal arrangements with the University of Essex and Coventry University in the UK, as well as with institutions in France, Germany and Spain. EC programmes such as ERASMUS, COMETT, LINGUA, PETRA, YES FOR EUROPE, EUROFORM and NOW have all contributed to this process. Many of the colleges spoken to participate actively in these programmes and exploit the opportunities offered for the benefit of their students. One college representative pointed out that programmes such as ERASMUS were not as helpful to RTC students as was sometimes thought. ERASMUS had proved financially unattractive to many students (grants under ERASMUS cover only travel and higher cost of living expenses) and this was reflected in take-up for the scheme. COMETT, by contrast, probably because it involved post-graduate work placements, had proved the more valuable programme.

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ESF Funding

A combination of factors is believed by college personnel to have contributed to the rapid growth in the RTC sector in recent years, e.g., demographic factors, increasing industrialisation and the associated skill needs, rising unemployment leading to people staying within the educational system for longer, etc.. However all those interviewed recognise that ESF funding has been a major factor in the growth of the sector. While the demand for places in RTCs would have grown as a result of demographic pressures, colleges believe that the State's ability to provide for this increased demand would have been very limited were it not for the inflow of ESF monies. ESF funding considerably reduced the net cost to the state of supporting the development of the RTC sector.

College personnel also suggest that, financial considerations aside, ESF and the programmes which it supported were also important because they raised awareness of the need for technical/vocational training. While this need had already been recognised to a degree, as evidenced by the establishment of the RTCs, ESF funding considerably raised the profile of such training. Much has been written in the past of the academic bias in Irish education. A number of those interviewed believe that ESF funding and the conditions which govern it are playing a large part in helping to redress this imbalance.

ESF funding is also held to have had major socio-economic impact in that it allowed students from lower socio-economic backgrounds to avail of third level education. Prior to the introduction of ESF grants funding was available only under the Higher Education Grant and the VEC Scholarship schemes. Such grants are dependent on a means test and the achievement of a certain standard in the Leaving Certificate examination. However the income level on the basis of which eligibility was decided up to 1992 was quite low while the level of achievement required in the Leaving Certificate was relatively high (four honours). As a result many students with parents on income levels just above the level to qualify for a grant were denied the opportunity to enter third level education. The introduction of non-means tested ESF grants was therefore viewed as timely and as having provided educational opportunities to people who would not otherwise have benefited.

In 1992 changes were made to all college grant schemes, including ESF grants. The maintenance element of these are now subject to a means test. There is still no requirement of a minimum Leaving Certificate result - qualifying for a place on an ESF course is sufficient. The same rules on assessment of income now apply to ESF maintenance grants as apply to the Higher Education grant scheme. However these too were changed in 1992. The means test thresholds to qualify for a grant have been raised. Much stricter assessments of grant eligibility have also been introduced. All colleges visited recognise that the recent changes will lead to greater equity within the Higher Education sector generally. The system will also be less open to abuse. Colleges also feel however that the introduction of a means test will cause difficulties for some students. It is believed that, even with the lower threshold, some students who cannot afford to will lose maintenance grants. Most colleges had already had evidence of this in the increased numbers of students applying for assistance under college hardship funds.

At the time colleges were visited (December - February 92/93) it was as yet too early to assess the full effects of the introduction of the means test. Colleges feel that students placed under financial pressure by the loss of a maintenance grant would remain in the system until about February. It was then that financial constraints would finally force them to leave. Colleges do not, however, expect a large increase in drop-out-rates. The imperative to gain some form of qualification is particularly strong in times of recession and the view expressed is that students and their parents will go to some lengths to ensure courses are completed. In an ideal world all college fees would be free and all students would receive an element of maintenance, but colleges recognise that this is unlikely to come about in the near future. One change that they do feel might be introduced immediately is the funding of part-time students in RTCs. Such students do not presently qualify for ESF grants but, as many come from the ranks of the unemployed or are people engaged in further training to improve the skills needed in the workplace, colleges feel that a strong case can be made for providing them with grant aid.

General

Finally all colleges were asked some general questions about the growth of RTCs over recent years and the success or otherwise of MLT/HTBS. As mentioned above, colleges believe that the following factors combined to bring about the large growth in the RTC sector over the past decade:

i) Demographic factors.

ii) ESF funding.

iii) Increasing industrialisation and the associated need for technically trained people.

iv) High unemployment rates which encourage people to spend longer in full-time education.

v) Changes in social attitude to the RTC sector, i.e., an increased incidence of participation by people from higher socio-economic backgrounds in the sector.

While the first four factors either require no elaboration or have already been discussed above, the last warrants further description. It relates to a change in attitude toward both RTCs and vocational training generally to which all those spoken to referred. The perception of those interviewed is, that while a certain academic bias still persists in Irish education, there is now a much greater acceptance of both the need for and value of a technical education. The consequence of this has been much higher participation by students from higher socio-economic backgrounds in the sector than in the past and an associated rise in numbers generally.

The change in attitude was probably prompted by a number of different factors - increased industrialisation, the scarcity of jobs in other areas etc.. Some of those interviewed in RTCs point out that ESF funding was also a factor in that it gave the RTCs the opportunity to establish credibility among those from professional or managerial backgrounds. It allowed colleges to develop a reputation for academic excellence and a track record of producing graduates who quickly found employment. Parents thus saw advantages in encouraging their children to choose this sector. The students themselves also perceived the potential benefits. High calibre students began to choose courses in RTCs in favour of those run in Universities. All of this added to the reputation of RTCs and encouraged their further growth. This growth is held to be likely to continue. The recent legislation giving greater autonomy to RTCs and the new status of the DIT as an awarding body are all considered likely to encourage the continuing growth of the sector.

Issues Arising

The information gathered from colleges and presented above provides a detailed picture of how MLT and HTBS operate. Both appear to be relatively successful programmes. The overall picture is one of well-developed procedures, relevant courses, good links with industry and acceptable placement rates. A number of points of concern emerge however in the following areas:

☐ College Certification

☐ Awards leading to Professional Qualifications

☐ Links with Industry

☐ THAS

☐ Administration

☐ Uncertified Departures

☐ Placement/Career Guidance

☐ Training of Trainers

☐ Funding

These issues will be addressed further in the final sections of this report, Chapter 11 "Evaluation" and Chapter 12 "Conclusions and Recommendations". In order to obtain a more "college specific" view of MLT and HTBS however, the next section consists of case studies of two RTCs, Sligo and Cork. This approach is taken to illustrate more fully the role of RTCs. This is followed by an analysis of placement and recruitment patterns. All issues arising in the course of this analysis are then considered further in the final two chapters of the report.

8. CASE STUDIES OF TWO RTCS

Sligo Regional Technical College

Sligo RTC specialises in a number of particular areas, most notably that of precision engineering which is taught from apprenticeship to diploma level. Other prominent areas of activity include business and accountancy, languages, international marketing and computing. Sligo sees itself as an innovative college. For many years it was the only RTC to run a degree in Environmental Science. It was the first college to run a diploma in Social Studies and to run a purposely designed National Certificate for part-time students. Up to recently it was one of only four colleges in the country operating distance learning - the others being Dublin City University, the University of Limerick, and Waterford RTC. (Cork RTC has also just initiated a distance learning programme under the Euroform Community Initiative). A new area into which the college is venturing is that of Industrial Design. The decision to do so is based on the view that a demand for skills in this area is likely to arise in three or four years time. The college stresses that decisions of this kind are market driven and that skill needs must be anticipated in advance.

Sligo RTC is one of the most pro-active colleges in terms of introducing work placements as an integral part of courses. Eleven of its 28 courses involve work placements and the college places more students in this way than any other with the exception of the University of Limerick which pioneered this process in the Irish context. The National Diploma in Computing at Sligo RTC, for example, involves a minimum of four months industrial placement. The National Certificate in Social Studies involves a six weeks work placement in year one and an eight week work placement in year two. College staff were very enthusiastic about the benefits of work placement. It greatly enhances the learning experience for students, providing them with very valuable opportunities to apply their knowledge in the work environment. It also exposes them to up-to-date developments within the industrial and business worlds. Staff who visits students on work placements also reap some of these benefits. Ongoing contact with industry also increases the chances of placing students permanently with companies following graduation.

Sligo RTC has been to the fore in developing links with educational institutions abroad. At present between fifty and sixty of the college's students spend a full year in Germany, France, Britain or Spain and students from other countries also study in Sligo RTC. Students on the National Certificate in Mechanical or Electronic Engineering can participate in a joint Bachelor of Engineering course with Coventry University by attending Sligo RTC for years one and three and Coventry University for years two and four. Students on other courses, e.g., National Certificate in Civil Engineering can, by formal arrangement, proceed to honours degree courses in Queens University, Belfast and the University of Middlesex. Sligo also runs a National Diploma in International Marketing which is offered in co-operation with technical universities in non English speaking EC countries. Students on the course must complete a placement of at least twelve weeks in the marketing area of a Business in the language zone in which the course is studied. Other courses also offer opportunities for work placement or study abroad, e.g., in 1992 three students on the National Diploma in Computing did work placements in France and Spain. These placements were grant-aided through either Comett or Erasmus. The college hopes to send students on similar placements to Portugal in the near future. Such placements are said to assist colleges to keep abreast of best practices in Europe.

Research and Development is an important part of activity at Sligo RTC. It is seen to be an integral part of supporting the industrial relevance of training. The college is the site of the National Tool-making Centre. This Centre is funded under the Science and Technology Sub-Programme of the Industry and Services OP. Funding amounts are determined by the Office of Science and Technology in the Department of Enterprise and Employment and co-ordination is undertaken by EOLAS. The college provides the basic infrastructure and is a source of staff for the Centre. All research presently undertaken in the college is 50% funded by industry, i.e., industrial partners are involved. Most research students at Sligo RTC have two supervisors, one academic and one from industry.

Staff at Sligo RTC feel that the need for technically trained people is stronger now than ever. They welcome the new legislation for RTCs which they hope will allow them to respond to this need even more proactively than in the past. To do so however, the college believes that it will need more staff. Sligo is one of the colleges being used in the IPA's current research into the effects of new legislation. An early draft recommendation of the research was that administrative staff numbers should increase from 17 to 32.

Sligo RTC's target in respect of uncertified departures was to have 75% throughput. This is now up to 80% which they consider to be satisfactory. Of the 20% which drop out, 10% fail their exams. The remaining 10% drop out for a variety of reasons. The college feels that, by international standards, these rates are acceptable.

Sligo RTC sees their ILO as a "Head of Development" rather than simply someone with responsibility for developing links with industry. The original ILO role was expanded to include a broader planning function. The college does not have a careers officer.

On funding issues, staff at Sligo RTC favour funding for part-time students. They point out that such students are often people seeking second chance education or unemployed people who feel that a technical education acquired from an RTC will assist them to get work. Some part-time students are employees who feel their skills require radical up-dating if they are to continue to do their jobs effectively. The view at Sligo RTC is that such training is valuable and that students who participate should be supported through ESF funds. Details and a brief analysis of throughput figures and the domiciliary origins of students at Sligo RTC are supplied below.

REGIONAL TECHNICAL COLLEGE SLIGO
COLAISTE TEICNIUL SLIGEACH

Throughput on all ESF Funded Courses

	Gender	1989/90	1990/91	1991/92	1992/93*
Civil and Construction	M	160	161	181	219
	F	26	19	13	18
Mechanical	M	90	129	100	105
	F	2	8	3	3
Electrical and Electronics	M	47	54	62	71
	F	6	4	3	4
Other Engineering	M	24	0	45	44
	F	9	0	10	0
Architecture	M	0	0	0	0
	F	0	0	0	0
Science	M	54	43	87	65
	F	74	76	79	139
Business Studies	M	255	257	248	298
	F	423	396	356	438
Art / Design	M	27	23	32	55
	F	41	41	44	122
Other	M	0	3	9	0
	F	0	44	65	0
TOTAL		1,238	1,258	1,337	1,581
Total Male **Total Female**		657 581	670 588	764 573	857 724

* *Estimates*

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The main points arising from the throughput figures are

i) The numbers of students in Sligo RTC have risen steadily since 1989.

ii) There are more males than females each year. Moreover, the male/female ratio disimproved each year until 1991/92 but then improved again slightly in 1992/93 when there were 133 more males than females as compared to 191 in 1991/92. The figures also show that there are consistently more females than males on Business Studies and Art Courses, and occasionally in the Science area. In all other disciplines, e.g., the engineering and construction fields, males far outnumber females.

iii) The largest number of students is in the field of Business Studies. The number of students studying in business related areas tends to be 3 times as large as that in any other area. The next largest faculty in terms of student numbers is Civil and Construction Engineering while the third largest is Science.

iv) Art and Design is one of the smallest faculties in terms of student numbers but a notable increase occurred in 1992/93, coinciding with the college's increased emphasis in this area.

SLIGO RTC
DOMICILIARY ORIGIN OF STUDENTS ENROLLED IN FULL-TIME COURSES

Area	1990		1991		1992	
	No.s	%	No.s	%	No.s	%
CONNACHT						
Galway	80	5.9	111	7	120	7
Leitrim	113	8.4	116	7.4	130	7.5
Mayo	262	19.4	272	17.3	272	15.6
Roscommon	123	9.1	142	9	156	9
Sligo	357	26.4	375	24	428	24.5
Total	935	69.2	1,016	65	1,104	63.4
LEINSTER						
Carlow	2	.15	3	.2	4	.4
Dublin	42	3.1	67	4.3	76	4.3
Kildare	7	.51	10	.6	20	1.1
Kilkenny	-	-	1	.06	4	.2
Laois	1	.07	6	.4	9	.5

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Longford	72	5.3	71	4.5	78	4.8
Louth	8	.59	3	.2	7	.4
Meath	17	1.26	28	1.8	25	1.4
Offaly	10	.74	16	1.0	20	1.1
Westmeath	32	2.37	40	2.6	44	2.5
Wexford	4	.30	4	.26	8	.46
Wicklow	-	-	8	.5	8	.46
Total	195	14.39	257	16.4	305	17.5
MUNSTER						
Clare	7	.51	6	.4	15	.86
Cork	7	.51	18	1.1	29	1.7
Kerry	4	.30	7	.44	8	.45
Limerick	13	1.0	22	1.4	19	1.1
Tipperary	7	.51	12	.8	14	.8
Waterford	4	.30	7	.44	8	.46
Total	42	3.13	72	4.6	93	5.3
ULSTER						
Donegal	73	5.48	83	5.3	101	5.8
Cavan	42	3.11	56	3.8	57	3.3
Monaghan	19	1.48	26	1.6	22	1.2
Total	134	10.07	165	10.5	180	10.3
Total Republic	1,306	96.74	1,510	96.42	1,682	96.5
Total Northern Ireland	1	.07				
Total EC	41	3.11	53	3.4	59	3.4
Rest of Europe			3	.19		
Africa	1	.07				
Asia	1	.07			1	.05
GROSS TOTAL	1,350	100%	1,566	100%	1,742	100%

Sligo RTC, while catering largely for the Connacht region (in 1990 69.2% of students came from Connacht), also attracts students from the rest of the country and overseas. Only two counties in the Republic of Ireland did not have a student attending Sligo RTC in 1990. All counties were represented in 1991 and 1992. Students from elsewhere in the EC include students from France, Germany, Greece, Britain and Spain. Sligo also attracts a small number of students from countries outside the EC. The fact that students from such a variety of regions attend Sligo RTC would indicate both that it has a good reputation and that its courses are attractive to students and of a high standard. The figures also suggest that the college caters for more than just regional needs.

Uncertified Departures

The college could not supply formal figures on uncertified departure rates but estimates these to be at approximately 20%. A rough measurement might be obtained by subtracting the number of students registering for exams in June from the number enrolling in the previous October. The resulting measurement would indicate drop out rates not including examination failures. On the basis of the figures obtained in the course of this evaluation this could only be done for one year. The numbers registered for examinations in 1991 were subtracted from the numbers enrolling in October 1990 (see table below) giving a figure of 103 drop-outs (7.6%). If the number of failures is added to this figure a total drop-out rate of 195 results, i.e., 14.4% in 1991.

NUMBER OF STUDENTS ENROLLED IN FULL-TIME COURSES ON 31 OCTOBER

Year	Male	Female	Total
1990	703	647	1,350
1991	842	724	1,566
1992	943	799	1,742

NUMBER OF AWARDS

Year	OYC	National Certificate	National Diploma
1989	27	380	123
1990	-	303	170
1991	-	344	194

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This table shows that the number of National Certificates awarded declined in 1990 but rose again in 1991, while the number of National Diplomas has increased steadily since 1989. Sligo RTC awarded 27 One Year Certificates in 1989 but no longer runs courses leading to these awards. This coincides for the most part with the national trend which is for National Certificates to increase steadily with more dramatic increases in the number of Diplomas awarded since 1989. The number of One Year Certificates awarded has declined considerably in recent years.

Cork Regional Technical College

Cork RTC has 2,600 full-time students and over 3,500 part-time students. In 1992/93 the total number of applicants for Certificate/Diploma places in Cork RTC was 48,257. This figure incorporates all applications made via the CAO/CAS system regardless of preference. The college estimates that of these 7,564 individuals were actively seeking places. The total number of places eventually allocated was 1,093 (See below). All courses run in the college were filled and there were waiting lists for some.

CORK REGIONAL TECHNICAL COLLEGE ADMISSION 1992 GENERAL STATISTICS

	Certificate/Diploma	Total
Total number of applications	48,257	52,768
Total number of offers	4,871	5,116
Total acceptances	1,093	1,235

Competition for places in the college is clearly strong; college representatives say that the main constraint on the number of places is space, as college buildings are at full capacity. Other colleges have continued to increase numbers by expanding their intake of business students. The costs involved are relatively small because no expansion of laboratory facilities or equipment is necessary. Cork RTC believes, however, that such a policy can lead to overcrowding and a lowering of standards. It has chosen instead to maintain its emphasis on engineering/manufacturing. This places a clear limit on the number of places available in the college. The college does, however, have a strong business faculty as well as a sizeable science faculty. More recently it has diversified into areas such as tourism and leisure.

Research and Development is a strong feature of activity at Cork RTC. Three specialist facilities are located on campus - the Clean Technology Centre, the Advanced Manufacturing and Management Systems Centre and the Nautical Enterprise Centre.

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Specific funding is provided by EOLAS and the EC through a variety of R & D programmes. Schemes such as the Applied Research Programme provide funding for equipment, personnel and external co-operation. Other schemes being availed of in Cork RTC include the Scientific Research Programme, the Higher Education/Industry Linkage Programme, and the Strategic Research Programme. The college participates in several EC R & D programmes requiring transnational and industrial partnerships e.g., BRITE/EURAM, BCR, STEP and STAR. The COMETT programme has facilitated the placement of students for periods of up to six months within overseas industry.

Cork RTC has entered into a number of agreements with continental Universities to facilitate the reciprocal transfer of students. It also has an arrangement with University College Cork whereby a quota of graduates from the RTC's Diploma in Business Studies is accepted into UCC's Commerce degree programme. In 1992 seven Cork RTC graduates took the highest places in UCC's Commerce degree.

Funding from Community Initiatives such as NOW and EUROFORM is also availed of in Cork RTC. NOW supports a number of college programmes designed to encourage women to participate in courses leading to careers in non-traditional areas while EUROFORM supports innovative course developments in the areas of analytical chemistry, quality assurance and distance learning for business.

Details on throughput and the domiciliary origins of students are supplied below. Throughput on ESF funded courses declined from 1,895 to 1,745 between 1990 and 1991 but rose again in 1992 to 1,937. As in the case of Sligo RTC the number of males far exceeds that of females - 65% male and 35% female. Again as in the case of Sligo RTC, females dominate in the business area (64%) while they are very poorly represented in the engineering faculty. More balance can be found in the Science field but here too males outnumber females by 13.4%. The college attracts students from virtually all counties. Only two counties were unrepresented among the student body in 1989 and only one in 1990 and 1991. The college also attracts students from Spain, France and Germany.

REGIONAL TECHNICAL COLLEGE CORK
COLAISTE TEICNIUL CORCAIGH

Throughput on all ESF Funded Courses

	Gender	**1989/90 Total**	**1990/91 Total**	**1991/92 Total**
Civil and Construction	**M**	175	213	258
	F	11	22	26
Mechanical	**M**	88	75	133
	F	-	2	2
Electrical and Electronics	**M**	177	169	170
	F	3	7	9
Other Engineering	**M**	293	303	305
	F	13	23	42
Architecture	**M**	45	17	56
	F	20	5	18
Science	**M**	200	199	219
	F	162	163	177
Business Studies	**M**	111	121	121
	F	151	148	151
Art	**M**	-	-	-
	F	-2	-	-
Other	**M**	190	36	30
	F	256	188	220
TOTAL		1,895	1,745	1,937
Total Male **Total Female**		1,279 616	1,173 572	1,292 645

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DOMICILIARY ORIGIN OF STUDENTS ENROLLED IN FULL-TIME COURSES

Area	1989		1990		1991	
	No.s	%	No.s	%	No.s	%
CONNACHT						
Galway	4	.18	11	.46	17	.6
Leitrim	-	-	-	-	-	-
Mayo	6	.27	10	.4	14	.5
Roscommon	4	.18	5	.2	8	.3
Sligo	-	-	1	.04	1	.03
Total	14	.63	27	1.1	40	1.5
LEINSTER						
Carlow	1	.04	1	.04	3	.1
Dublin	19	.8	27	1.1	32	1.2
Kildare	4	.18	4	.16	8	.3
Kilkenny	4	.18	5	.2	12	.45
Laois	3	.13	1	.04	2	.07
Longford	1	.04	3	.12	1	.03
Louth	4	.18	4	.16	3	.1
Meath	4	.18	5	.2	5	.2
Offaly	3	.13	4	.16	7	.26
Westmeath	4	.18	3	.12	4	.15
Wexford	13	.58	13	.54	28	.1
Wicklow	5	.2	5	.2	8	.3
Total	65	2.82	75	3.04	113	44.16
MUNSTER						
Clare	19	.85	19	.8	28	1
Cork	1,835	81.8	1,938	81.2	2,017	76.6
Kerry	114	5	103	4.3	122	4.6
Limerick	31	3.4	86	3.6	111	4.2
Tipperary	73	3.2	81	3.4	123	4.7

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Waterford	35	1.5	46	1.9	61	2.3
Total	2,152	95.7	2,273	95.2	2,462	93.4
ULSTER						
Donegal	10	.4	6	.25	4	.15
Cavan	2	.08	1	.04	2	.07
Monaghan	-	-	1	.04	3	.1
Total	12	.48	8	.33	9	.33
Total Republic	2,243	100%	2,383	99.9	2,624	99.7
Total Northern Ireland					1	.03
Total EC			2	.08	6	.23
Total Africa					1	.03
GROSS TOTAL	2,243	100%	2,385	100%	2,632	100%

Cork RTC recently completed a study of rates of uncertified departure from the college. This was the only formal study of its kind identified in the course of this evaluation. Drop-out rates were calculated by subtracting the number who applied to sit exams from the number eligible to do so. A summary of the results is supplied in the tables below. The results show a total drop-out rate for 1991 of 8.8%. (This figure does not include failures). The rate for ESF funded courses if one includes National Certificates, National Diplomas and College Awards, is 10.6%. The greatest student losses occur at National Certificate level - a combined total of 121 from 1990 and 1991. This compares with 28 losses at National Diploma level and 32 from College Awards. Most losses were from the Electrical and Electronics Engineering area - a combined total of 36 from 1990 and 1991. Significant losses were also recorded in Building and Civil Engineering and in Chemical and Biological Sciences. There were no drop-outs from the Printing and Publishing area and only two from Tourism and Catering Studies. The Cork study did not extend to an investigation as to why such drop-outs occur, although College staff at departmental level say they would usually have some idea why students leave. All colleges feel that most uncertified departures occur because students find that courses do not suit them. The figures above might bear out this view in that most drop-outs are from areas such as Engineering where students are less likely to know in advance exactly what is involved.

STUDY OF STUDENT THROUGHPUT AND ATTRITION
CORK RTC

Faculty	1991 Examinations			Student Losses
	Eligible	Applied	Sat	
Electrical & Electronics Engineering	327	291	282	36
Marine Engineering & Nautical Studies	145	130	128	15
Building & Civil Engineering	263	237	227	26
Mechanical & Manufacturing Engineering	193	181	180	12
Mathematics & Computing	171	151	144	20
Applied Physics & Instrumentation	80	75	72	6
Chemical & Biological Sciences	298	272	266	26
Business Studies	383	362	353	21
Social & General Studies	46	35	35	11
Tourism and Catering Studies	87	85	84	2
Printing & Publishing	20	20	20	0
Architectural Technology	83	75	72	8
Medical Laboratory Science	87	77	75	10
Automobile Engineering	63	57	55	6
Mechanical/Electrical Draughtsmanship	67	63	62	4

SUMMARY FOR COLLEGE
STUDENT THROUGHPUT AND ATTRITION

Faculty	1991 Examinations			Student Losses
	Eligible	Applied	Sat	
National Certificates	1,217	1,096	1,062	121
National Diplomas	437	410	404	28
Degrees	401	379	370	22
College Awards	258	226	218	32
GRAND TOTAL	2,313	2,111	2,055	203

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9. PLACEMENT AND FURTHER STUDY PATTERNS

The most comprehensive source of placement information in respect of MLT and HTBS is the Annual Survey of the First Destination of Award Recipients compiled by the HEA. The Higher Education Authority (HEA) has compiled this survey since 1983. It has expanded considerably over the years and now embraces an estimated 95% of all recipients of educational awards. The most recently published survey (October 1991) relates to recipients in 1990. However publication of the survey of 1991 recipients, recording their labour market position at April 1992, is now imminent. Publication of this survey was delayed due to computerisation difficulties but the HEA and the NCEA, who co-ordinate the survey for the sub-degree sector, have made the first results available for this evaluation in advance of publication. The analysis which follows relates therefore to the most up to date placement figures recorded for the recipients of sub-degree awards.

Sub-Degree Awards

In 1991, the NCEA conferred 6,745 sub-degree awards on full-time students. Recipients (912) of sub-degree awards of the Dublin Institute of Technology were also included in the survey bringing the total number of sub-degree award recipients to 7,657. This was an increase of 529 (7.4%) award recipients on 1990. 431 (10.3%) more National Certificates were conferred in 1991 than in 1990 while 73 (2.6%) more National Diplomas were awarded. The number of One Year Certificates rose slightly from 240 in 1990 to 265 in 1991, reversing the trend of previous years. The response rate to the survey was 67%.

The main results of the survey of 1991 sub-degree award recipients were as follows:

OVERALL SITUATION
FIRST DESTINATION OF ALL SUB-DEGREE RESPONDENTS
1988 - 1991
%

	1988	*1989*	*1990*	*1991*
Gained Employment	52.7	50.4	48.2	38.0
- Ireland	37.1	36.9	39.6	34.0
- Overseas	15.6	13.5	8.6	4.0
Work Experience Schemes	1.7	0.9	2.9	3.4
Further Studies	38.7	43.1	39.2	46.1
- Ireland	36.4	40.4	35.6	42.1
- Overseas	2.3	2.7	3.6	4.0
Seeking Employment	5.6	4.8	8.3	10.9
Not Available for Employment / Study	1.2	0.9	1.4	1.6
Totals %	100.0	100.0	100.0	100.0
N	4,408	4,000	5,581	5,122

1. Of the 5,122 respondents who gave information on their first destinations at April 1992, 1,949 (38%) went directly into employment; 160 (3.4%) went into work experience schemes; 2,360 (46.1%) were continuing their studies and 83 (1.6%) were unavailable for employment or further study. 558 (10.9%) were seeking employment.

2. The proportion of respondents who gained employment decreased sharply from 48.2% in 1990 to 38% in 1991, a decrease of 10.2%. The proportion seeking employment increased by 2.6% (from 8.3% in 1990). The proportion continuing their studies at 46.1% showed a significant increase of 6.9% on 1990.

3. Comparisons with other years show that, while the proportion seeking employment declined slightly between 1988 and 1989, it rose by 3.5% in 1990 and a further 2.6% in 1991.

4. The proportion of those obtaining employment overseas has declined steadily from 15.6% in 1988 to only 4% in 1991. The decline in the proportion employed in Ireland was slightly greater (down by 5.6%). The proportion employed abroad is at the lowest level recorded since 1984. However, it should be noted that, of those employed abroad, the proportion employed in EC member states other than Britain has increased significantly by 13.9%, indicating how strongly the effects of recession in Britain are being felt.

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5. The breakdown of sub-degree respondents by sector of employment was as follows:

	1990 Recipients %	**1991 Recipients** %
Agriculture, Forestry, Fishery	2.6	3.1
Manufacturing and other Non-Service Industries	39.4	45.5
Public Services	15.8	14.8
Private Services	42.2	36.5

The figures show an increase of 6.1% for 1991 in the proportion of respondents employed in the manufacturing and non-service industry sector and a corresponding decrease in the services sector. This reverses the position recorded for 1990 when the proportion in manufacturing decreased by just over 5%, while the proportion in services increased by the same percentage.

6. The pattern of higher starting salaries for higher levels of award has continued.

PATTERN OF FIRST DESTINATIONS FOR ALL SUB-DEGREE RESPONDENTS BREAKDOWN BY AWARD

1st Destinations	1988 %			1989 %			1990 %			1991 %		
	OYC	CERT	DIP	OYC	CERT	DIP	OYC	CERT	DIP	OYC	CERT	DIP
Gained Employment - Ireland	24.9	31.9	49.9	25.7	31.6	52.8	49.1	33.0	50.6	50.0	28.8	42.9
- Overseas	6.2	14.8	19.4	5.5	12.3	18.1	4.2	7.2	11.5	1.8	2.4	7.7
Work Experience Schemes	1.1	1.9	1.2	1.4	0.9	0.7	3.8	2.8	3.0	3.6	3.7	2.6
Further Studies - Ireland	56.1	42.1	20.6	56.4	47.6	18.3	29.7	45.6	17.8	30.4	51.1	25.0
- Overseas	-	2.1	2.6	4.6	2.2	3.5	4.7	2.9	4.9	0.6	2.3	7.8
Seeking Employment	4.6	6.0	5.0	3.7	4.7	5.4	5.7	7.3	10.5	11.9	10.2	12.2
Not available for employment/ study	1.4	1.1	1.4	2.8	0.7	1.2	2.8	1.2	1.4	1.8	1.5	1.8
TOTAL %	100	100	100	100	100	100	100	100	100	100	100	100
N	369	2,613	1,426	218	2,731	1,051	212	3,489	1,880	168	3,321	1,633

A breakdown of the figures by type of award reveals the following:

- ☐ 11.9% of One Year Certificate holders were seeking employment - an increase of 6.2% on 1990. This compares with an increase of only 2% between 1989 and 1990.

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- ☐ 10.2% of National Certificate holders were seeking employment - an increase of 2.9% on 1990. This compares with a similar increase of 2.6% between 1989 and 1990.
- ☐ 12.2% of Diploma holders were seeking employment - an increase of 1.7% on 1990. This compares with the very sharp increase of 5.1% recorded between 1989 and 1990.
- ☐ 31% of One Year Certificate holders went on to further study. This was very similar to the 1990 figure (34.4%) but reflects a considerable decline on earlier years.
- ☐ 53.4% of National Certificate holders went on to further study, an increase of 4.9% on 1990. This contrasts with a decrease of between 1989 and 1990 of 1.3%. The most significant increase occurred in the proportion going on to further study in Ireland - 5.5%. This compared with a decrease of 0.6% in the proportion studying abroad.
- ☐ 32.8% of National Diploma holders went on to further study, a very sharp increase of 10.1% on 1990. This compares with an increase of only 1% between 1989 and 1990. The increase in 1991 is reflected both among those in further study abroad (up by 2.9%) and those in further study in Ireland (up by 7.2%).

The HEA suggests that, given the decrease in employment overseas, which clearly reflects the continuing economic recession in Britain, and the continuing high levels of overall unemployment in Ireland, the increase of 2.6% in the proportion of respondents seeking employment is hardly surprising. This is the second successive year for such an increase to be recorded (the increase in 1990 was 3.5%). Nevertheless the HEA also points out that 1990 was the first year since 1985 in which the percentage seeking employment showed an increase. In that year the corresponding figure was 10.8%. When the increase in the number of awards is taken into account, the rate of employment among respondents can be considered to compare reasonably well with the 1985 position, whereas in the Irish economy as a whole the rate of unemployment has deteriorated considerably since 1985.

The HEA also comments on the significant change which has occurred since 1990 in that the proportion of respondents in further study increased by 6.9%. Of particular interest is the reversal of the pattern for National Certificate holders, of whom the proportion in further study declined by 1.3% in 1990 only to rise again by 4.9% in 1991. Last year's HEA survey speculated that the decrease in 1990 might reflect a shortage of places on Diploma courses. The 1991 results reflect, it is suggested, both an increase in the number of Diploma courses available and an increased intake to some courses.

The proportion of Diploma holders going on to further study increased by an even more significant amount. In 1990 22.7% of Diploma holders were in further studies, in 1991 the proportion increased to 32.8%, an increase of 10.1%. The HEA suggests that this reflects improved possibilities for Diploma holders to enter Degree courses both in Ireland and abroad.

The main findings of the 1991 survey, compared with 1990, can be summarised as follows:

- ☐ a significant increase in the number of award recipients (+7.4%)
- ☐ an increase in the proportion seeking employment (+2.6%)
- ☐ an increase in the proportion of award recipients in further studies (+6.9%)
- ☐ a marked increase in the proportion of Diploma holders in further studies (10.1%)
- ☐ the proportion of award recipients employed abroad at its lowest level since 1984 (down from 8.6% to 4%)
- ☐ a decrease in the proportion of award recipients employed in Ireland. (-5.6%).

Issues for Evaluation

The HEA Report reveals that employment rates among sub-degree respondents were relatively good up to 1990, 52.7% in 1988 and 50.4% in 1989. In 1990 the proportion in employment declined by 4.9% to 48.2%, while in 1991 the proportion declined dramatically to 38%. This decline coincided, however, with a significant increase of 6.9% in the proportion in further study with the result that the increase in the proportion actually seeking employment was only 2.6%. The HEA also recorded the lowest proportion of award recipients employed abroad since 1984, clearly illustrating the effects of the recession in Britain.

Analysing these figures for the purposes of this evaluation leads to the conclusion that prior to 1990 employment rates among those completing National Certificate and Diploma courses were fairly high. This in turn suggests that such courses were going some way towards achieving the combined objectives of giving students the skills they need to gain employment and provide industry with the skilled workforce it needs to compete effectively. Since that time, however, an increase of more than 15% in the number of award recipients, a deteriorating employment situation nationally and recession in Britain would seem to have combined to reduce employment opportunities for RTC graduates. One consequence of this appears to be that students who would not otherwise have done so have chosen to go on to further study.

In the face of the very considerable decrease in the proportion of award holders obtaining employment, however, it is necessary to consider whether there were contributory factors other than those listed above. The increased numbers seeking employment and going on to further study might, for example, indicate that saturation point had been reached in the market for those with middle and higher level technical and business skills. If market demand was satisfied at the 1989 level of provision present trends might be the result of oversupply rather than of a fall-off in recruitment due to a deteriorating economic climate. Alternatively it may be the combination of both which is affecting employment rates. These possibilities need to be explored further. The essential point to emerge from all of the above however is that up to, and perhaps even including 1990, placement rates for MLT and HTBS were fairly good. It is only since that time that any serious decline has occurred. The significance of this, along with its potential causes, will be considered further in the course of this evaluation.

10. SURVEY OF EMPLOYERS

An issue closely related to placement is that of recruitment. In July and August of 1992 the Programme Evaluation Unit carried out a general survey of recruitment and training policies among Irish employers. Representatives of just over a hundred companies were interviewed. The sample population in the case of the larger companies was the Top Thousand company list published by Business and Finance. In the case of the smaller companies the sample was taken from the Golden Pages. Two points of significance for this evaluation emerged:

i) 44% of the companies interviewed recruited graduates of the RTCs. Of these 39% recruited Diploma holders and 41% recruited Certificate holders. 36% of companies recruited both Certificate and Diploma holders. A significant proportion, therefore, recruits from the RTCs. These figures compare with that of 38% of companies which recruit from the University sector. The survey would thus seem to indicate that courses run in RTCs do prepare people for employment and do meet employer needs.

ii) 24% of the companies had regular contact with RTCs. This is almost twice as many as had regular contact with the Universities (13%) but considerably less than had regular contact with FÁS (68%). RTCs would thus appear to have closer links with industry than Universities. In respect of the larger number with FÁS contact, account must be taken of the fact that only a proportion of companies will recruit graduates. It might also have been the case however that industry felt less need to maintain contacts with the educational establishments, preferring to recruit their graduates directly. This raised the whole question of industry's perception of the roles played by FÁS and the educational establishments. It also raised the issue of the role played by Careers Officers in the colleges and whether that role needed to be expanded.

In an attempt to explore these and other issues in greater depth a limited telephone survey was carried out of employers who recruit Certificate and Diploma holders from the RTCs. Twenty employers were selected from the panel of those participants in the earlier survey who agreed to be of ongoing assistance to the Unit in follow-up work. The survey was on a smaller scale than that previously conducted but explored the issues pertinent to this evaluation in more depth. The interviews were carried out in January and February 1993. A brief summary of the results is given below. While it is not possible to draw generalised conclusions on the basis of a small-scale telephone survey, those interviewed did have first-hand experience of recruiting RTC graduates and to this extent their views provide worthwhile insight into how successfully measures such as MLT and HTBS are achieving their objectives.

Twenty companies were selected by isolating from the original survey all those who recruited RTC graduates and then drawing a random sample from this sub-group. Approximately 55% of the companies selected were foreign owned, 45% Irish owned. Fifty five per cent of the companies were in the manufacturing sector, 25% in physical distribution and 20% in the services sector. The majority, 45% of the companies employed more than 100 people, 25% employed between 50 and 100 and 30% had less than 50 employees. The larger manufacturing companies had employed quite a number of RTC Certificate and Diploma holders over the years while the smaller companies tended to employ quite a small number at any given time. Nine of the companies interviewed, however, had not recruited a single RTC graduate within the past year. Companies believed this to be a function of the decline in recruitment generally due to the difficult economic climate.

The majority (8) of companies giving definitive replies to the question said that they recruited RTC graduates for a combination of reasons rather than purely for the technical qualification they had obtained. These employers indicated that they recruited on the basis of the combined attributes of good academic training, technical skills and adaptability which were often to be found in RTC graduates. Six of the eight said that the technical component of an RTC graduate's qualification did give candidates an extra edge during the recruitment process. The other two companies felt that the general adaptability of RTC award holders in the work place was an advantage. Six companies recruited RTC award holders purely on the basis of the specific skill they had acquired in college. For example, one company in the precision engineering field recruited extensively from Sligo RTC which runs courses in tool making, while a firm in the physical distribution sector recruited graduates specifically for the business or accounting technician qualifications obtained in an RTC. The remaining six companies either recruited RTC graduates only because they happened to be available - i.e. employees with lesser qualifications would have sufficed - or were unable to provide information on this point.

Interviewees were asked to what positions RTC graduates were appointed. Eight companies specifically appointed people as technicians. Seven companies said that the position to which the person was appointed had a technical or business element related to the qualification obtained by the employee. The positions ranged from business administration and sales/marketing positions to factory/laboratory work. The remaining five companies employed RTC graduates in a wide variety of diverse positions some of which have no bearing on their original qualification.

All twenty companies said they were satisfied with the level of qualification and training displayed by RTC graduates. Two companies indicated that, while they were happy with the theoretical aspects of training received in RTCs, a greater work experience component to the training would enhance the qualification.

Seventeen of the twenty companies interviewed provide further training for all staff following recruitment. In general the amount of post recruitment training provided to RTC graduates does not differ from that given to other staff members. Three companies said that they would expect such people to complete the training more quickly than non-graduates, while one said that additional training would be provided to people doing very technical jobs. One interesting point which emerged was that a number of companies who provided ongoing training for staff used RTCs for this purpose. One company used the local RTC extensively and was very satisfied with the service received. Courses were designed especially by the college to meet their needs and assistance was also given in the provision of in-house courses.

Twelve out of twenty companies felt that courses run in the RTCs were relevant to their needs. Three companies believed RTC courses could be made more relevant and one company felt that courses run in RTCs were not relevant to their recruitment needs. The four remaining companies felt unable to comment on this issue. Of the three which thought courses could be made more relevant one pointed out that more could be done to ensure that practical training in college is based as far as possible on the real work environment. A case cited in point was that of machine workers who received training on domestic machines in college but were required to use industrial machines in the workplace. The second company felt that RTCs could do more to ensure that courses such as engineering were as up to date as possible. The third company believed that more could be done in the sales and marketing areas. One company, while feeling that general RTC courses were not relevant to its needs as a result of which it did not recruit RTC graduates, made extensive use of RTCs when training its existing staff.

Only five of the companies interviewed put forward suggestions for new courses in the RTCs. These included a course in Front Line Management and a course in Customer Relations. Another suggestion was for a course that would produce graduates with a technical - e.g. electronics - background but who were also capable of taking on supervisor level positions. More general suggestions were for increased management training and more training in the quality assurance area.

Ten out of twenty companies definitely felt that colleges did not have sufficient contact with industry. Six companies felt colleges had sufficient contact with industry while four did not feel in a position to answer this question. Among those who believed there was insufficient contact a number commented on the fact that colleges were not doing enough to make industry aware of the type of courses they run and the type of graduates they produce. One company pointed out that they often took on people put forward by FÁS even though the FÁS course which such people had done was completely unrelated to the work of the company. Had FÁS not made the company aware of such candidates the company would have had to recruit through other, more expensive means such as via a recruitment agency. The point then made was that, if RTCs were providing companies with information on job seekers from their courses, companies would be much more likely to recruit their graduates than was presently the case. One company in Co. Westmeath contrasted the role played by RTCs in liaising with industry and that of the University of Limerick. The latter was in constant communication with the company and very responsive to suggestions as to how courses might be altered to suit industrial needs. Another company, while of the view that the local RTC did not liaise sufficiently with industry, did speak highly of the role of another RTC some distance away in this regard. Of the six companies who felt colleges did have enough contact, two were involved in work placement programmes, i.e. they take students from RTCs on temporary work placements. This meant that college staff visited once or twice a year. The other four companies appeared to have a good deal of contact with their local RTC. Two spoke very highly of the work done by the colleges. One praised especially the work done by the college Industrial Liaison Officer. The opportunities created by the recent legislation on the RTCs for increased contact between colleges and industry was welcomed.

Eight out of twenty companies felt that the need for technically trained staff had increased over the past five years. Five companies felt that the need for technically trained staff had declined. Two felt that the need for such staff had remained at the same level. The remaining five companies did not comment on this point.

A number of general comments were put forward by companies. One commented on the increase in training in areas such as Quality Control and felt that RTCs had played a large role in this development. Another company stressed its unfamiliarity with the work of RTCs and advised that they play a more proactive role in their dealings with industry. A third pointed out that qualifications obtained in RTCs were particularly relevant to the world of work and a much better guarantee of employment than many other academic qualifications. Yet another company believed that RTCs should design courses more pertinent to local industry. This company also put forward the general view, unrelated to the company's own work, that RTCs should concentrate especially on areas such as Rural Development, Tourism and Leisure. These were asserted to be the growth areas of the future.

The results outlined above can be briefly summarised as follows:

❑ All companies were satisfied with the levels of qualification obtained in RTCs. The majority felt courses were relevant to their needs.

❑ 10% more companies (40%) recruited RTC graduates for the combination of technical qualifications and other qualities which they possessed than recruited them for their technical skills alone (30%). Aggregating these figures, 70% of companies recruited RTC graduates either for their technical skills or the combination of those skills with other more general qualities. The remaining 30% either gave no explanation or said they recruited RTC graduates simply because they were available for work.

❑ 50% of companies felt that colleges did not have sufficient contact with industry while 30% believed they did.

❑ The majority of companies felt that the need for technically trained staff had either risen in the past five years or had remained at the same level. 25% of companies felt the need had declined.

11. EVALUATION

Preceding sections have contained much detailed information. This includes material gathered from existing research reports on the RTC sector, analysis of activity, expenditure and placement data relating to MLT and HTBS, an examination of the roles played by key agencies such as the Department of Education, NCEA and DIT, results obtained from a survey of employers who recruit from RTCs and a detailed report based on interviews with college representatives. The main point to emerge is that MLT and HTBS have had considerable impact both in terms of meeting skill needs and educating people for employment.

The main indicator of success must inevitably be placement. Prior to 1990 the numbers of Certificate and Diploma holders from RTCs obtaining employment were satisfactory. Even in 1990, when a decline of 4.9% was experienced, 87.4% of Certificate and Diploma holders either gained employment or went on to further study. Only 8.3% were seeking employment. Cause for concern has really only arisen therefore since the 1991 figures have become available. These reveal a very sharp decline of 10.2 % in the proportion of respondents obtaining employment, reducing the total to 38%. However, while clearly worrying, the decrease is offset to some extent by the fact that numbers seeking employment only rose by 2.6%. In all, 10.9% of Certificate and Diploma holders are currently seeking employment. The HEA points out that, allowing for the increase in the number of awards, the deteriorating employment situation in Ireland generally and recession in Britain, the rate of employment among respondents compares reasonably well with that of previous years. The main point to emerge from the analysis of placement statistics, therefore, is that up to 1990 placement of MLT/HTBS graduates was satisfactory and that any deterioration since that time may have at least as much to do with external conditions as it does with the nature or quality of the programmes.

Feedback on the programmes from both the colleges visited and representatives of industry has certainly been positive. The Survey of Employers conducted by the Unit showed that more companies (44%) recruited from RTCs than from the HEA sector (38%). Research among both companies and colleges suggests that courses are, for the most part, both relevant and of a high standard. Links with industry are stronger than in the HEA sector - 24% of companies surveyed by the Unit had regular contact with RTCs as compared to 13% with Universities - and bring very substantial benefits in terms of improving course relevance and facilitating graduate placement. Innovative developments are taking place in areas such as modularisation, credit accumulation and credit transfer which may bring added advantages in terms of increased flexibility and improved opportunities to transfer into other institutions either at home or abroad.

Mechanisms for ensuring course quality are also satisfactory. Both the NCEA and DIT have amassed considerable experience in this area and the functions they perform combine with the internal quality control procedures exercised by colleges to ensure that courses are of the necessary standard. Changes in the operational procedures at college level - also brought about by the new legislation - are likely to further add to the effectiveness of courses run under MLT and HTBS. Colleges will have greater autonomy in budgetary areas, greater management responsibility and an increased capacity to develop links with industry. These changes should enable colleges to focus courses even more specifically than at present on the needs of industry.

ESF funding has clearly had a major impact. While demographic factors and increasing pressures on employment have played a part there is no doubt that ESF funding has been a major catalyst in the growth of the RTC sector. The past decade has seen a massive expansion in enrolments. In 1989 the Lindsay Report noted a 105% rise in enrolments in the RTC sector since 1980/81 as against 32% for the HEA sector. The trend is continuing with an increase of 33% between 1987/88 and 1991/92 alone, i.e. from 20,800 to 27,300. While the demand for places in RTCs would have increased as a result of population growth, colleges themselves believe that the state's ability to provide for the increased demand would have been limited were it not for the inflow of ESF monies. Moreover ESF funding raised the profile of technical/vocational education thus helping to redress the bias towards academic education in the Irish context. It gave colleges the scope to improve standards of provision to the extent that they could attract better calibre students from a wide-range of socio-economic backgrounds. In particular, at a time when the means test thresholds on other forms of grant aid were relatively low, unconditional ESF funding enabled many people who might not otherwise have been able to do so to avail of third level education.

All of the evidence quoted above, therefore, shows MLT and HTBS to have been successful programmes and the impact of ESF funding to have been considerable. The net effect has been that significantly more people are now receiving technical/vocational training at third level than had previously been the case. This in turn means that the pool of technically skilled people available to employers has increased substantially.

However the information supplied in preceding sections also raises some important questions in respect of the programmes as well as identifying a number of areas where improvements can be made if the benefits of MLT and HTBS are to be maximised. These are discussed below.

Placement/Focus of Measures

Firstly, the dramatic increase in numbers of 1991 MLT and HTBS graduates still seeking employment in April 1992 must be a cause for concern. One possibility is that the decline is the inevitable consequence of ever increasing enrolments, the poor economic situation generally and recession in Britain. Alternatively however the decline may indicate that market demand for RTC graduates was satisfied at the 1989 level with the result that provision over and above that has caused oversupply.

In the course of this evaluation the views of both colleges and representatives of industry were canvassed in respect of skill needs, market demand and whether the need for technical skills was as great now as it had been five years ago. The majority of colleges felt that they should continue the provision of technical courses at present levels, while the majority of companies interviewed believed the need for technical skills to have either increased or remained at the same level. This evidence tends to favour the view that the decrease in placements has more to do with poor economic conditions generally than with an over-provision of technical personnel.

At this stage, therefore, there is no conclusive evidence to suggest that, given an improved labour market situation in this country and a recovery from recession in Britain, placement rates in 1992 or 1993 may not return to the 1989 level. This appears even more possible in light of the recent Manpower forecast compiled by FÁS and the Economic and Social Research Institute which bases its projections on the years 1990-1996. This shows that those working in a technical area will have better job opportunities than those engaged in many other areas. The Study sees growth, for example, of 13.5% in the associate professionals category which includes a wide range of engineering and science technicians, computer programmers and technical officers in other areas.

In light of the conflicting signs presently emerging - falling placement rates set against a background of satisfactory rates up to 1990 and projections for a possible increase in demand between now and 1996, the only recommendation which can be made is that more time should be allowed to elapse before definitive conclusions can be reached as to whether the numbers trained to Certificate and Diploma standard in RTCs should be reduced, maintained at present levels or increased. The 1991 placement figures thus highlight the fact that both MLT and HTBS have been in operation sufficiently long to warrant a reappraisal of their original focus and objectives but also suggest that any such reappraisal must be approached with caution. The Department of Education points out that serious errors have occurred in other areas in the past as a result of overhasty responses to one year's figures. Colleges also suggest that a three or four year period is required to anticipate either new skill needs or a decline in existing needs. The best course of action therefore is to instigate a formal programme of monitoring placement statistics under MLT/HTBS over a three to four year period. The trend from 1990 to 1995 should indicate conclusively whether the measures ought to continue in their present form or whether alterations are now warranted.

Business V. Technical Skills

A related issue is the ratio between technical and business graduates trained under the two measures. Over 50% of trainees under MLT take technical subjects while about 45% take courses in business and marketing. Some of those interviewed as part of this study believed that too many people were being trained in business areas to the neglect of technical skills. Cork RTC, for example, although itself having a large and successful business school, point out that the college had made a deliberate effort to preserve a strong engineering/ manufacturing base. Engineering schools in other colleges, it is suggested, are suffering at the expense of rapidly expanding business faculties. Expanding the numbers of business students is much less expensive than expanding in areas such as science or engineering where laboratory facilities are required. This can result in a growth in the number of business graduates disproportionate to market demand.

The point raised by Cork RTC is valid. Many colleges are expanding their business schools and the danger that this is in response to a desire to increase numbers rather than to market demand needs to be guarded against. However the 1990 HEA survey showed that the highest percentage of those gaining employment was in the private services sector and that 58% of those in employment were working in either the private or public service sectors. While some of these people may have technical qualifications it is likely that many were trained in a business or business-related area. Although this trend was reversed in the 1991 Survey - indicating just how rapidly indicators can change - there is some independent evidence to suggest increased skill needs in the services sector. Most commentators (e.g. FÁS/ESRI, Industrial Policy Review Group) would agree that most of the employment growth in the Irish economy in recent years has been in the market services sector. The rise in the number of business or business-related students in the colleges may therefore be appropriate. In order to ascertain this definitively the study of placement rates over a three or four year period which was mentioned in the previous section should pay special attention to placement rates for business graduates. If poor placement rates are recorded then colleges should be encouraged to reduce their business faculties. If, on the other hand, placement rates are good this can be taken as an indication that the decision of colleges to diversify into this area was an appropriate response to changing skill needs.

Programming

New courses have emerged in recent times in the tourism and leisure areas. Some of these overlap with business courses or are included within business faculties. Indications from colleges are that such courses are a response to market demand. The 1990 employment figures for the services sector quoted above confirm this to some extent. A number of these courses are funded under MLT/HTBS rather than under measures of the Tourism Operational Programme. The Tourism OP, as originally devised, only incorporated those tourism courses operated by, or in conjunction with, CERT. More recently this situation has begun to change and a number of tourism courses run by the Department of Education now fall within the Tourism OP. Others, however, continue to be covered by MLT and HTBS, e.g. Hotel and Catering Management. Indications are that such areas as tourism and leisure management are growth areas and the decision to diversify is probably the right one. However it would seem more logical, in programming terms, that those tourism courses presently funded under MLT should be grouped with other tourism courses in any reorganisation of activity under the new CSF.

Apart from the need to group all tourism courses together one further issue arises in respect of programming. MLT is categorised as one measure while HTBS is categorised as one of two sub-measures, the second of which is ATS (Advanced Technical Skills). Yet MLT and HTBS are, in fact, very similar in terms of both scope and objective. Both are run in RTCs and one is effectively a more advanced stage of the other. ATS, by contrast, is run by the University sector and is at a more advanced level than HTBS, i.e. it is a post degree qualification. For future programming purposes therefore it would seem both logical and practical to link MLT and HTBS within one measure, while classifying ATS as a separate measure.

ESF Funding

ESF funding has been shown to have been of immense benefit to the RTC sector. A number of areas have been highlighted in the course of this evaluation, however, where improvements might be made or where close monitoring of the effects of recent changes in the allocation of funding is needed. These areas are described below.

Means Tests

One of the major benefits which ESF funding has had has been the opportunities it has given to students from lower socio-economic backgrounds to obtain third level education. The Clancy Report showed that students from the Skilled Manual Workers Group formed a higher percentage of new entrants to the RTCs and the DIT than to other college types. It also showed that more than two thirds of students from the Unskilled Manual Workers Group and more than half of the students from the Other Non-Manual Workers and Skilled Manual Workers Group were in receipt of ESF funding, thus revealing the benefits which ESF funding has brought to those financially less well-off. However, while unconditional ESF funding has led to an increase in those from lower socio-economic backgrounds in third level education, the highest proportion of students continues to come from professional, managerial, salaried and farming backgrounds. A recent HEA study, for example, showed that 51% of entrants to HEA-designated institutions in 1989/90 came from higher socio-economic backgrounds. Notwithstanding the impact of ESF funding, therefore, the disparities in opportunities to enter third level education continue to exist.

This makes it especially important that the advantages which ESF funding has brought in socio-economic terms should continue. Without such funding the disparities would clearly be even larger. For this reason the impact of changes which have recently been introduced such as means testing for the maintenance element of ESF grants need to be carefully monitored. If the net effect of such changes were to be a further widening of the gap between the numbers of working class and middle class students in third level, consideration should be given to adopting a new approach.

Representatives of all colleges visited accept that the introduction of means testing will lead to greater equity in the system generally. (Prior to this applicants for Higher Education grants were means tested while those for ESF grants were not). Moreover colleges, while believing that some students might experience financial hardship, did not anticipate sharp increases in uncertified departures as a result of the introduction of means testing. In addition, the introduction of means tests for ESF maintenance grants has not occurred in isolation but in tandem with a substantial raising of means tests thresholds generally. The overall effect, in theory, should therefore be to increase access to all third level institutions for those from low socio-economic backgrounds.

Lack of equality of opportunity to attend third level education has, however, always been a notoriously difficult problem to solve. Factors involved are not only financial but are also social. A combination of financial assistance and social policies is the ideal way to tackle the problem. If the financial assistance is not adequate, however, or fails to benefit the most needy, social factors become academic. The recent raising of means tests thresholds and attempts to tackle equity problems seem to be moves in the right direction. In order to be absolutely certain that this is the case, however, careful monitoring of both uncertified departure rates and the socio-economic profile of college populations should take place over the next few years to ensure that recent changes in funding are having positive impact. The first indications of any possible effects will emerge in the next Clancy report on participation in third level education which is due for publication in 1994.

Part-time Students

Another issue arising in respect of funding is that neither MLT or HTBS, covers part-time students. Many such students, in the experience of colleges, are unemployed people seeking retraining or employed people who feel they need update training in certain areas if they are to continue doing their jobs effectively. While ESF funded schemes exist which target both categories there seems to be a gap in coverage. The VTOS, for example, which is designed to provide educational opportunities for the unemployed relates only to foundation training and thus does not extend to third level qualifications. A separate non-ESF funded scheme was introduced in 1987 which allows unemployed people to attend certain part-time education courses while still retaining their entitlement to unemployment assistance. They must first satisfy the Department of Social Welfare that they are still available for and seeking employment and that the part-time course is likely to improve the participant's chances of finding employment. However the original intention of this facility was to allow persons to take basic literacy courses and, although the range of courses has since widened, it does not appear to have extended into the third level sector. The Third Level Allowance Scheme which was set up on a pilot basis in 1990 allows persons in receipt of unemployment assistance to pursue full-time third level studies. Such persons may apply for the Higher Education grant or do an ESF funded course and so will not have to pay fees. However this scheme makes no provision for those who wish study part-time. Existing schemes do not therefore seem to cover unemployed people who wish to undertake third level courses on a part-time basis. Colleges suggest that many more unemployed people would pursue part-time studies leading to technical or vocational qualifications if they received assistance in paying their fees.

The position for people in employment wishing to undertake update training on a part-time basis seems to be somewhat similar. The Middle Level Retraining Scheme is designed to assist colleges to run part-time courses for people in employment but it does so by providing funding to cover increased use of facilities, overhead costs etc. Students, however, pay fees. Some students will be lucky enough to have the costs of their training covered by their employer. Others may receive ESF assistance under the Industrial Restructuring Programme, i.e. their fees will be ESF funded on the basis that the training involved is part of a company training plan approved by FÁS under the IRTP. However only a limited number of students will have their fees paid for either directly by the employer or via the IRTP. (Not all companies are aware of the IRTP while those that are must compete for limited funding). The result is that there may be many people who feel that part-time study in RTCs would improve their performance in the work place but who cannot afford to finance such courses themselves. One possibility might be to expand the scope of MLT and HTBS in such a way as to include both unemployed and employed people who wish to undertake part-time technical/business courses but who are not catered for elsewhere. An alternative in the case of the unemployed might be to extend the VTOS to the RTC sector.

Non-ESF Funded Courses

At the outset of this evaluation the Department of Education, in addition to supplying a list of those courses run in RTCs which are ESF funded, also supplied a list of those courses which are not supported by EC funds. While many of the latter clearly do not conform to the criteria required for funding under MLT or HTBS, e.g. they are degree courses or have no technical/business components, it was not immediately clear why some of the courses listed were not funded. Ab-initio diploma courses in areas such as Chartered Surveying/Valuation or Opthalmics Optics Optometry, for example, are not covered although they would seem to be precisely the type of course which HTBS is intended to support. The Department of Education point out that limited national resources for the provision of matching funding meant that, when HTBS was originally introduced, they had to prioritise in their identification of courses for ESF funding. The consequence is that a small number of courses which seem to meet the necessary criteria are not ESF funded. If there is market demand for the skills provided by such courses and if they satisfy the criteria for funding under HTBS, it is incongruous that they do not receive ESF assistance. Consideration should be given to including all such courses in the next round of funding. If funds are unavailable from all potential sources, a reappraisal should take place to determine if priority funding areas have changed since the original decision on which courses to fund was taken.

The Role of the NCEA and developments in Certification

The possibility of establishing the new National Education and Training Certification Board is currently being explored. One consequence of this may be that the NCEA is required to take on a greatly expanded function across the whole education and training spectrum. Clearly more resources would have to be provided, particularly in terms of expert staff in the training field.

However, independently of any such developments, there is scope for the NCEA to take on a more proactive role as the certifying body for MLT and HTBS courses, to improve the recognition of course provision by industry and ultimately to enhance students' opportunities when competing in the labour market. This more proactive role should focus on identifying best practice in course development and provision and promoting this nationwide. In addition, links with certifying bodies elsewhere in the EC should be strengthened with a view to developing mechanisms for the transfer to Ireland of best practice in the EC. A further advantage of a more European focus would be to identify areas of potential skill need towards which Irish students could be directed. Finally, it would be of benefit if the research capacity of the NCEA could be upgraded to allow the organisation to conduct studies of skill needs in Ireland and adapt provision in the RTC sector accordingly.

Infrastructure

The average cost per student per day under MLT and HTBS is £24 and £27 respectively. These figures compare favourably with costs in the HEA sector. It is a credit to the RTC/DIT sector that they have maintained standards of education in the colleges while keeping costs down. All of the evidence of this evaluation has shown the high calibre of the students produced by RTCs and the regard in which they are held by employers. This becomes all the more impressive when the amount of expenditure at the disposal of RTCs is compared with the much greater amounts available to Universities.

This evaluation has also shown, however, how rapidly enrolments to this sector have increased in recent years. Infrastructural developments in RTCs have not kept pace with enrolments and visits to any RTC will show both infrastructure and equipment provision to be at a level far below that of Universities. At this stage, therefore, a priority for funding in the RTCs must be infrastructural development. ERDF allocations presently being made to the RTCs under the Operational Programme for Vocational Training Infrastructure should bring about major improvements and a general programme of rationalisation and capacity enhancement in all RTCs is currently underway. The Department of Education has, moreover, made strong proposals in its submission to the new National Development Plan and CSF for further improvements in this area. The submission points out that investment in physical resources in the sector has been negligible over the decade and suggests that there is a shortfall in space provision of 130,000 square metres on projected requirements. It proposes a number of projects which will expand on existing policies of capacity enhancement and equipment upgrading. It is too early to say whether these particular projects will be approved. There is certainly a need, however, to concentrate resources on infrastructural development in RTCs and any new approach or increase in expenditure should be such as to make up for the neglect of the past. Existing ESF expenditure will have maximum effect if the physical facilities available to students and teachers alike are adequate.

Trainer Numbers

Increases in teaching staff have also failed to keep pace with the expansion in enrolments. In a recent report the ESRI point out that whereas enrolments in RTCs and Colleges of Technology increased by 33%, from 20,800 in 1987/88 to 27,300 in 1990/91, the increase in teachers was only 17%, from 2,300 to 2,700. The obvious danger arising from this decline in teacher/student ratios is that standards in RTCs will deteriorate in the longer term. This danger will be avoided however if this problem is tackled now. Resource constraints are always a problem but efforts should be made to increase teacher numbers in line with the growth in student populations. Student numbers should not be allowed to expand further in situations where the student/teacher ratio is already high.

Training of Trainers

All colleges welcome the Training of Trainers Sub-Programme. However, notwithstanding the improvements it has brought about, it is seen as only a very small step towards meeting the great need to train academic staff which exists in the RTCs. This is held to be an area which has been long neglected - again largely because of insufficient resources. If, therefore, the benefits of MLT and HTBS are to be maximised it is important that more resources and attention should be given to the training of trainers. This should encompass not only training for staff in new technologies as is the focus of the current scheme but also general update training, pedagogical training and management training. The latter is especially important in light of the new responsibilities conferred on colleges by recent legislation.

College Certificates

College certificates are an obvious area of concern. Steps are presently being taken to reduce the number of such certificates awarded and the Department of Education is conducting an audit of those which remain. However those which continue to exist must prompt questions in terms of validation of standards and how widely they are recognised. Were all certificates and diplomas to be validated by a statutory awarding body these questions would not arise. The ideal situation would therefore be one in which all courses are validated by either the NCEA or DIT and no college certificates are awarded. This issue would clearly be one for the attention of the proposed new certification authority. However, the issue of college certification is one which must be tackled immediately by existing agencies such as the Department of Education and the NCEA.

Awards leading to Professional Qualifications

A related issue is that of courses which give exemptions to the examinations of professional bodies. Some such courses are also validated by the NCEA or DIT but the majority are not. In the latter case students who complete the course receive what is, in effect, a college certificate and are then expected to take the examinations of the relevant professional body. Students who choose not to do so would thus only be holders of a college certificate. A case might be made for seeking dual recognition for such courses, i.e. professional and NCEA/DIT recognition. This would ensure that any students choosing not to proceed to the later stage do at least hold a nationally recognised qualification.

Uncertified Departures

Both colleges themselves and the Department of Education point out that competition for places in RTCs is extremely intense and that this has resulted in a fall-off in uncertified departure rates since they were first flagged as an issue in the Lindsay Report in 1989. The numbers of those applying for places in Cork and Sligo RTCs certainly illustrate the interest among potential students. Moreover the manner in which departures are measured can inflate the numbers involved in that students choosing to take up higher preference places in other colleges are recorded as drop-outs. Other students drop out, colleges point out, to take up employment. To the extent that those leaving are "genuine" drop-outs, colleges believe that the numbers involved are acceptable by international standards. Notwithstanding all of these points, however, uncertified departures must continue to be an issue until formal statistics are available. At present the numbers involved can only be very loosely estimated. Were the numbers involved large it would raise questions about student selection procedures and whether the selective funding of courses under MLT and HTBS has attracted students into courses for which they are unsuitable. Questions would also arise as to the artificial inflation of throughput rates while the most efficient use of ESF funds is hardly being made if significant numbers are leaving without qualifications. Indications from both colleges and the Department of Education are that the numbers are not large but a much stronger case could be made if a formal study of the numbers involved were available.

The NCEA is presently examining this issue but the study is of a limited nature. It will initially look at figures for 1991 only, although there is a suggestion that it may go on at a later stage to focus on a four or five year cohort. Indications presently are that it will be some time before any results are made available. Ideally a comprehensive study of drop-out rates providing information on the precise numbers involved and analysing the reasons for leaving should be undertaken. Most of the raw material for the statistical aspect of such a study is already held within the Department of Education. The results would allow for more informed comment on this issue. A proposal for the future might be that colleges should include information on uncertified departure rates in the Annual Reports which they are to submit to the Department of Education.

Links with Industry

Links between RTCs and industry are generally strong and are likely to become stronger in light of the scope for increased research and consultancy work for industry which is provided for in recent legislation. However, while much has been achieved by RTCs in this area, the result of interviews with colleges is to suggest that the strength of industry links varies quite considerably from one to the next. While some difference from college to college is inevitable there is scope for encouraging all colleges to follow the example of those which are especially proactive in this area such as Sligo RTC. A uniformity of approach would allow all colleges to develop equally strong links with industry.

The survey conducted among employers of RTC graduates further illustrates the need to bring about improvements in this area, with 50% of companies surveyed believing that colleges did not have sufficient contact with industry while 30% believed they had. The majority believed that colleges could do more to make industry aware of the skills and services they provide. Two mechanisms for addressing this problem are:

i) that all colleges be encouraged to indicate a strong commitment to developing links with industry and to adopt best practices for doing so which have been devised by individual colleges. Colleges could include their plans in this regard in the operational programmes which they are now required to submit for approval to the Department of Education.

ii) that colleges make every effort to make local industry fully aware of the services they provide and the type of skills that are available among their graduates.

Work Placements

Those colleges such as the DIT College of Commerce, Rathmines and Sligo RTC which incorporate work placements as an integral part of many of their courses cannot speak too highly of the benefits this brings in terms of enhancing student skills, improving course relevance, strengthening contacts with industry and obtaining employment for students on graduation. This was confirmed by industry itself during the survey of employers of RTC graduates when a number expressed the view that the best trained employees were those who combined an RTC qualification with some work experience. If a stronger commitment to developing links with industry is to be pursued an important mechanism would be the extension of work placement programmes where this is feasible.

Some colleges expressed reservations about this on the basis that the current economic climate makes industry reluctant to provide even temporary placements. However the experience of both Sligo RTC and the College of Commerce, Rathmines is encouraging. The benefits to be obtained certainly warrant the effort involved in establishing such programmes.

Graduate Placement Service

Although placement rates for RTC graduates were reasonably good up to 1990 there is clearly scope for improvement, particularly in light of the sharp decline in placement in 1991. One method of tackling this would be for colleges to take on a more proactive role in the area of graduate placement. Most colleges do play some role in this area but it tends to depend very much on the commitment of individual members of the academic staff. Colleges argue that they have simply never had resources to provide a formal graduate placement service. The only career officer in the RTC/DIT sector is in Dublin and caters for the whole of the DIT. Many RTC graduates register with FÁS, the national placement agency, on completion of their studies but FÁS deals with all those who register on an individual basis and it might be argued that a sectoral approach would bring more success. Such an approach would raise industry's awareness of the role of RTCs, the skills of their graduates and the availability of local technical expertise.

The results of the Unit's original survey of 101 employers showed that 68 of the companies had regular contact with FÁS whereas only 24 had regular contact with RTCs. This was partly due to FÁS's role as national placement agency - companies see FÁS as an obvious recruitment ground for apprentices and operatives - but also to the fact that many RTC graduates are recruited directly on the basis of individual applications. Neither the college or FÁS are involved. This says something about the quality of awards received by RTC graduates in that they are clearly widely recognised by employers. However, even more such graduates might secure employment if a concerted graduate placement service were in operation for the RTC sector. All HEA colleges offer such a service and the emphasis on this area within the HEA sector is increasing all the time. The most recent development in this area is Trinity College's appointment of a former professional recruitment consultant to head up its careers and appointments team.

The survey of employers of RTC graduates illustrated the need for some kind of graduate placement service. A number of employers of RTC graduates interviewed during the Unit's survey pointed out that they occasionally appointed people because FÁS had made them aware of their availability for work rather than because of any specific experience or qualification which equipped them for the job. In some such cases an RTC graduate might have been more appropriate but, rather than go to the trouble and expense of advertising or using a recruitment agency, companies simply selected from the list made available by FÁS. This admission by companies highlights the opening which exists for careers offices in RTCs. If, like FÁS, such offices were to supply local companies with lists of potential employees on a regular basis they might greatly increase placement rates for their students. Moreover, by raising the profile of RTCs within industry, the work of the graduate placement office could link in neatly with that of ILOs and those establishing work placement programmes. One proposal might be for all three functions to be carried out within one, adequately staffed, office. A further function which could be carried out by this office is the monitoring of employer satisfaction with those RTC graduates which they recruit. This is done only on a very sporadic basis at present. Such feedback would allow areas of potential improvement to be identified.

Further Study

Indications are that opportunities for further study are quite good. The 1991 HEA survey shows that 46.1%% of respondents were continuing their studies - an increase of 6.9% on 1990. The proportion of One Year Certificate holders going on to further study continues to decrease but the proportion of National Certificate holders increased by 4.9% while the proportion of National Diploma holders doing further study increased by a significant 10.1%. In 1990 the proportion of National Certificate holders in further study had decreased and the HEA speculated that this may have reflected a shortage of places on Diploma courses. They suggest that the increase in 1991 indicates improved opportunities for further study brought about by an increase in the number of Diploma courses available and an increased intake to some. A similar interpretation is put on the sharper increase in the proportion of Diploma holders going on to further study. The HEA believe this to reflect improved opportunities for Diploma holders to enter degree courses both in Ireland and abroad.

While, however, the chances for Certificate and Diploma holders to go on to further study seem to be increasing, information gathered in the course of this evaluation indicates that there is still room for improvement. The suggestion that more should be done to improve opportunities for further study is not intended to conflict with the fact that One Year Certificates, National Certificates and National Diplomas are end qualifications in themselves. The objective of MLT and HTBS is to train for employment and this should not be lost sight of. This point is recognised in the Green Paper which states: "a particularly important aspect of course development in the colleges is the need to ensure that the value of both certificates and diplomas is not undermined, and that they retain their primary function as terminal qualifications for employment." The importance of qualifications at this level has also been highlighted in research carried out by David Soskice of the Comparative Labour Economic Unit at the Berlin Social Science Centre. Soskice points out that while the need for management training has been long understood, it is only recently that the crucial importance of training at lower and middle levels has been recognised. Research has shown that countries which are successful in terms of international competitiveness have effective systems for the education and training of the lower 50% of the workforce. Countries which are less successful in such terms tend to have underdeveloped or ineffective systems for training at lower or middle levels. Soskice concludes that training the lower 50% of the labour force is of at least as much, and possibly more, importance for a healthy economy than higher level training. On the question of further study therefore, the suggestion here is simply that an appropriate balance be maintained between certificate and diplomas as end qualifications on the one hand and opportunities for further study on the other. Adequate opportunities for further study will ensure that, itimes of economic recession, certificate and diploma holders will have options other than unemployment or emigration.

The pattern emerging from the most recent HEA Survey shows how important this can be. The results suggest that opportunities to obtain employment were far fewer in 1991 than in earlier years. Many more Certificate and Diploma holders appear to have chosen to continue their studies as a consequence of this than might otherwise have done so. Such a decision would be influenced by the hope that the additional qualification obtained or an improved labour market situation would, in time, create new job prospects. Individuals can only take this decision however if sufficient opportunities for further study exist. It is for this reason that more emphasis should be placed on improving procedures in this regard.

Recent initiatives in the areas of modularisation, credit accumulation and credit transfer certainly seem to have facilitated those who wish to go on to further study. (The results of pilot studies in these areas have not yet been completed but feedback from Sligo RTC is very positive). Even more important has been the development by institutions such as the University of Limerick and Dublin City University of clear criteria for transfer into the University sector. All other colleges in the HEA sector, however, continue to operate very informal systems where transfers are concerned. If opportunities for RTC students to go on to further study are to continue to improve a uniform set of transfer criteria should be adopted by all universities. This would clarify the situation for students and would probably further increase the number of students going on to further study in Ireland rather than overseas (up quite considerably in 1991 in a reversal of the trend between 1989 and 1990). Some colleges visited had suggested that the lack of clarity in respect of transfer arrangements was one of the factors encouraging students to go to Britain and elsewhere. The HEA is presently doing research in the area of student transfers and its results and recommendations should be informative.

Male/Female Breakdown

All of the evidence gathered in the course of this evaluation indicates that the situation identified by the Clancy Report in respect of male/female breakdowns has continued to the present day. The Clancy Report showed that there were more male than female new entrants to the RTC/DIT sector in 1986 and that more males than females chose to study in technical fields such as engineering (only 3% female) and construction. Figures supplied by Sligo RTC in the course of this evaluation show that, in 1992/93, there are more males than females in the college and that males far outnumber females in disciplines such as engineering and construction. Similarly in Cork RTC the student population is 65.1% male and 35.9% female. Females dominate in the business area (63.94%) but are very poorly represented in the engineering faculty. The Department of Education has instigated a number of programmes over the years to address the gender imbalance, e.g. the recent "Girls into Technology" programme. Various projects have also been undertaken under the NOW Initiative to encourage more women to participate in technological education e.g. the DIT, Bolton St. is presently operating a NOW project entitled "Access for Women into Technology Courses" and a similar project is being undertaken by Cork RTC. The continuing disparity between the numbers of males and females on technological courses is evidence however that the problem is a difficult one to resolve. Many feel that the issue is one which needs to be tackled at an earlier stage, at primary and secondary level and within the family. In the interests of gender equity and equality of opportunity all initiatives at all levels to prevent the streaming of female students into non-technological areas should be pursued.

Administration

The changes brought about by recent legislation in the way colleges are administered are welcomed by all college representatives spoken to. However the more rapidly a new staffing structure can be put in place to action these changes the sooner the benefits will accrue.

THAS

While THAS was seen as a useful means of measuring cost effectiveness there would seem to be some confusion within colleges as to whether resource allocations are made on the basis of THAS returns. Clarification of this situation for colleges would be useful. In addition, mechanisms for improving the sensitivity of THAS to take account of the differing teaching needs of first and final year students would be welcome.

Initial Training

As presently operating MLT and HTBS are categorised as training for the unemployed. All students wishing to enrol on ESF funded certificate or diploma courses must first be registered with FÁS, the national placement agency. In reality however the vast majority of those who enrol on courses in RTCs are school-leavers moving directly from second into third level education. It would be more accurate therefore to describe both MLT and HTBS as initial training rather than as training for the unemployed. The requirement, therefore, that potential students must first register with FÁS should be removed.

On the question of terminology the terms used in respect of these measures could be simplified. Colleges refer to the courses involved simply as certificate and diploma courses and some find references to "MLT" and "HTBS" confusing. It would be more clear if future OPs were to use the same terms as colleges.

Performance Indicators

An important issue for planning the future of MLT and HTBS is the identification of suitable performance indicators. The identification of such indicators will make the process of evaluation easier in the future as the measurements can be built into the planning process. In the human resource area, the development of performance indicators is particularly difficult. However, on these programmes, the following indicators are already available:

- throughput
- activity
- certification level and certifying body
- placement
- wage rates of past participants nine months after completion of training.

Further indicators relating to the quality of training which could be used are:

- the number of students per trainer
- the qualification level of trainers.

Targets need to be set in relation to these indicators to allow the performance of the training to be assessed on some quantifiable basis.

12. CONCLUSIONS & RECOMMENDATIONS

The conclusion of this evaluation is that both MLT and HTBS have been successful programmes which have had tremendous impact on technical and vocational training in Ireland. They have succeeded in their objectives of providing participants with the technical skills they need to meet changing employer needs. The pool of technically skilled people available to employers has accordingly increased substantially.

However, as the preceding chapter shows, there are a number of areas where changes can be made which would improve the programmes further. There are, in addition, a number of aspects which will require careful and detailed monitoring over the next few years to determine whether alterations should be made in either the focus of the programmes or the levels of provision involved.

The specific recommendations to emerge from this evaluation are set out below. These recommendations are intended to further improve already successful programmes and, more especially, to ensure their continuing success. Some of the recommendations have resource implications which may constrain their implementation. However, submissions for funding under the new CSF are presently under consideration and, depending on their outcome, sufficient additional funding may become available to bring about necessary improvements.

Recommendations

1. Comprehensive monitoring procedures should be introduced in a number of important areas;

   a) In light of the conflicting signs emerging in respect of the levels of demand for technical and business skills, placement statistics for MLT/HTBS graduates should be carefully monitored over a three or four year period. The pattern which emerges will indicate whether falling placement rates relating to 1991 are a function of the poor economic climate or evidence that the supply of certificate and diploma holders has begun to exceed demand. The figures should also show whether the increased numbers in business courses in colleges is an appropriate response to current labour market trends.

b) Rates of uncertified departure at both college and national level should be formally measured on an ongoing basis. This will give greater weight to the assertion that the numbers involved are relatively small. This recommendation echoes that in the Green Paper on Education which suggests that it is timely to review success and drop-out rates.

c) The impact of recent changes in funding mechanisms such as the introduction of means tests for the maintenance element of ESF grants should also be monitored. While clearly designed to improve equity in the system and increase opportunities for students from lower socio-economic backgrounds, research has shown the relationship between financial support systems and equality of opportunity to be so complex that careful monitoring of the effects of change is needed to ensure that objectives are being achieved.

2. Programming should be improved such that all tourism-related courses presently under MLT and HTBS are grouped with other tourism measures in the future and MLT and HTBS become sub-measures of one measure while ATS is classified as a separate measure.

3. Consideration should be given to funding part-time students in RTCs. This applies particularly to those who are either unemployed and seeking training for employment or who are in employment but wish to undertake update training on a part-time basis.

4. Eligible courses presently not funded under HTBS should be funded during the 1994 to 1999 period. If this is not possible due to lack of resources the decisions taken in 1989 as to which courses were priority for funding purposes should now be reviewed.

5. The development of infrastructure should continue to be a priority for the RTC sector. Should the Department of Education's submissions for increased ERDF funding to expand on existing programmes of capacity enhancement and equipment upgrading be successful such development should proceed rapidly. If little or no increases in EC financing for this area are forthcoming, consideration should be given to reallocating funds from other areas. The need to upgrade facilities and equipment is sufficiently urgent at this stage to warrant such an approach. The alternative would be a serious decline in the quality of training which can be offered under MLT and HTBS.

6. Consideration should be given to increasing the number of academic staff in RTCs/DIT. A recent EC Report on Skills Shortages spoke of the need for a formidable increase in the current number of trainers and teachers at all levels. A high teacher/student ratio, like poor infrastructure, can obviously endanger the quality of courses provided in RTCs. Resource constraints are obviously a factor but increased teacher numbers should also be seen as a priority area for any

funding that becomes available. Student numbers should not expand further in colleges where the teacher/student ratio is already high.

7. The proposed new staffing structure designed to take account of the additional administrative responsibilities bestowed on colleges by recent legislation should be introduced as quickly as possible. This will not only ensure an effective transfer of responsibilities from VECs to colleges but will also relieve academic staff of administrative pressures, thereby allowing them to concentrate more fully on teaching activities.

8. New policies should be developed for training of trainers in RTCs and existing policies should be developed further. The Department of Education's proposals for post '93 activity include expanding the existing Training of Trainer schemes. Such expansion is clearly necessary and should include pedagogical and management training as well as update training. Improving the opportunities to avail of training should also be a priority.

9. All college certificates should be phased out as quickly as possible and all ESF funded courses should in future be approved by either the NCEA or DIT. Proposed new developments in the certification area such as the establishment of an Academic Audit Unit within the HEA and of a new national certification board should bring about improvements in this area.

10. The recent debate on certification is welcome and will hopefully soon be brought to a productive conclusion. The proposals to facilitate ease of progression through levels of education and training are especially welcome, as is the associated proposal for increased co-ordination between the University and RTC sectors. The NCEA, while performing a strong role in the quality assurance field, has played a reactive rather than a proactive role where interfacing with the University sector is concerned. Developments, therefore, which either encourage the NCEA to adopt a more proactive role in this regard or confer responsibility in this area on some other body, e.g. the HEA, should ensure that links between the two sectors are strong and that the benefits of such links in terms of improved responses to industrial needs etc. accrue rapidly.

11. The NCEA should also play a wider role in terms of developing links with certifying bodies elsewhere in the EC and promoting the transfer of best certification practice to this country. This ties in with a similar recommendation in the Moriarty Report. More emphasis on the identification of future skill needs would also be beneficial.

12. Consideration should be given to introducing dual qualifications for courses leading to professional examinations.

13. Colleges should be encouraged to adopt a uniform approach to developing links with industry. While some work is being done in this area some colleges continue to be more active in promoting such links than others. This is a further area where the NCEA might play a more proactive role. Alternatively, it may be something

which the HEA could co-ordinate, if its role is expanded in line with the Green Paper proposals.

14. Work placement schemes should be expanded.

15. Ideally, an office should be set up in all colleges with responsibility for Graduate Placement, Industrial Liaison and the development of work placement schemes. This office could also monitor employer satisfaction with graduate performance. Resource constraints will again be a factor but the results of this evaluation strongly suggest that many benefits would accrue. The establishment of a Graduate Placement Service would be especially beneficial, both in terms of increasing employment for RTC graduates and ensuring that students make the right course choice at the outset.

16. It is essential that Universities should develop a uniform set of criteria for students transferring from the RTC to the University sector. If its role is expanded as suggested in the Green Paper on Education, the HEA could adopt responsibility in this area (it is presently doing research on inter-institutional transfers). Recent proposals for increased co-ordination of the RTC and University sector are also welcome.

17. In the interests of gender equity and equality of opportunity all initiatives at all levels to prevent the streaming of female students into non-technological areas and to encourage their equal participation in technological fields of study should be pursued.

18. Clarification of the use to which THAS returns are put would be useful from the point of view of colleges.

19. MLT and HTBS should be categorised as initial training rather than as training for the unemployed and the requirement that potential students register with FÁS should be removed.

20. Consideration should be given to simplifying the terminology in future Operational Programmes by describing the relevant courses, as colleges do, as Certificate and Diploma courses rather than as MLT and HTBS.

21. Finally, although a number of performance indicators are used in respect of these programmes, there is scope for developing or making greater use of additional indicators, especially those pertaining to the quality of training.

Final Comments

Technical and vocational training in Ireland, as provided in the RTCs and Colleges of Technology, is currently in a state of flux. Major changes have already been precipitated by the recent legislation on the sector and more are imminent in light of the ongoing discussion on the Green Paper "Education for a Changing World". The present debate on certification is also likely to have consequences for technical/vocational training. The next few years of operation of MLT and HTBS should be especially interesting, therefore, and should provide the ideal opportunity for introducing the kind of refinements suggested in the recommendations outlined above. The scope exists for building on past experience and for ensuring the continuing success and relevance of both programmes in the years ahead.

APPENDIX 1

COLLEGES OPERATING ESF PROGRAMMES
Regional Technical College, Athlone
Regional Technical College, Carlow
Regional Technical College, Cork
Regional Technical College, Dundalk
Regional Technical College, Galway
Regional Technical College, Letterkenny
Regional technical College, Waterford
Regional Technical College, Sligo
Regional Technical College, Tallaght
Regional Technical College, Tralee
Regional Technical College, Limerick
College of Catering, Cathal Brugha Street
College of Commerce, Rathmines
College of Marketing and Design, Mountjoy Square
College of Technology, Bolton Street
College of Technology, Kevin Street

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APPENDIX 2

STUDENT NUMBERS BY COLLEGE 1991/92	
Athlone RTC	2,139
Waterford RTC	3,356
Tralee RTC	1,509
Dundalk RTC	2,041
Carlow RTC	2,018
Galway RTC	2,756
Sligo RTC	1,738
Letterkenny RTC	1,285
Limerick RTC	2,212
Cork RTC	3,516
College of Catering	1,706
College of Technology, Bolton Street	3,644
College of Technology, Kevin Street	2,971
College of Commerce, Rathmines	1,864
College of Marketing & Design	1,858
College of Art & Design, Dun Laoghaire	275
TOTAL DIT	12,043
TOTAL RTC	20,358

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APPENDIX 3

MLT / HTBS
COURSES APPROVED FOR EUROPEAN SOCIAL FUND AID
1992/93

Course Title	Qualification	Awarded By
College: Athlone RTC		
Hotel & Catering Supervision	National Certificate	NCEA
Business Studies	National Certificate/Diploma	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Design	National Certificate/Diploma	NCEA
Office Administration	National Certificate	NCEA
Social Studies	National Certificate	NCEA
Science (Applied Biology)	National Certificate/Diploma	NCEA
Science (Applied Chemistry)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Engineering (Mineral)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Engineering (Plastics)	National Certificate/Diploma	NCEA
Engineering (Electronic)	National Certificate/Diploma	NCEA
Accountancy	Certificate/Diploma	College
Hotel & Catering Management	National Diploma	NCEA
Polymer Technology	National Diploma	NCEA
College: Carlow RTC		
Business Studies	National Certificate	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Accountancy	Diploma	ACCA/CIMA
Engineering (Electronic)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Architectural Draughting	Certificate	College
Science (Applied Chemistry)	National Certificate/Diploma	NCEA

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Science (Applied Biology)	National Certificate/Diploma	NCEA
Health Science (App Physiology)	National Certificate/Diploma	NCEA
Science (Applied Physics)	National Certificate/Diploma	NCEA
Computing Science	National Certificate/Diploma	NCEA
Marketing	National Diploma	NCEA
Science (Industrial Biology)	National Diploma	NCEA
Science (Analytical)	National Diploma	NCEA
Science (Applied Physics)	National Diploma	NCEA
Science (Optical Systems)	National Diploma	NCEA
Marketing	National Diploma	NCEA
Design	National Diploma	NCEA
Accounting Technician	Certificate	AAT
College: Cork RTC		
Hotel & Catering Supervision	National Certificate	NCEA
Print Media Technology	National Certificate	NCEA
Business Studies (Accounting)	National Certificate/Diploma	NCEA
Secretarial Studies	Certificate	College
Applied Chemistry	National Certificate/Diploma	NCEA
Applied Biology	National Certificate/Diploma	NCEA
Medical Laboratory Science	Certificate	IMLS
Science (Instrument Physics)	National Certificate/Diploma	NCEA
Computing	National Certificate	NCEA
Nautical Technician	National Certificate/Diploma	NCEA
Automobile Engineering	Certificate/Diploma	College
Mechanical Engineering	National Certificate/Diploma	NCEA
Mechanical & Electrical Draughtsman	Certificate	College
Civil Engineering	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Building Technology	Certificate	College
Electronic Engineering	National Certificate/Diploma	NCEA
Electrical Engineering	National Certificate	NCEA
Telecommunications Technician	Certificate	CGLI
Marine Radio Communications		CGLI
Tourism Studies	National Certificate	NCEA
Engineering (Marine Plant)	National Certificate/Diploma	NCEA
Social Studies	Certificate	NCEA
Financial Data Processing	Certificate	ICA

Costing Technician	Certificate	CIMA
Data Analysis	Certificate	ACCA
Accounting Technician	Certificate	ICPA
Food Science Technology	National Diploma	NCEA
Construction Studies (Economics)	National Diploma	NCEA
Construction Studies (Architect.)	National Diploma	NCEA
Marine Radar Maintenance	Certificate	Dept. Comm.
Marketing	National Diploma	NCEA
Seaman/Engine Operator	Certificate	Dept. Marine
Leisure Studies	National Certificate	NCEA
College: Dundalk RTC		
Business Studies (Accounting)	National Certificate/Diploma	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Science (Applied Biology)	National Certificate	NCEA
Science (Applied Chemistry)	National Certificate	NCEA
Computing	National Certificate/Diploma	NCEA
Engineering (Industrial)	National Certificate	NCEA
Engineering (Production)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Technology (Furniture Manufacture)	National Certificate	NCEA
Engineering (Electronic)	National Certificate/Diploma	NCEA
Business Studies (Marketing/Management)	National Diploma	NCEA
Science (Food Technology)	National Diploma	NCEA
Electronics (Product Development)	National Diploma	NCEA
Electronics (Manufacture)	National Diploma	NCEA
College: Galway RTC		
Medical Laboratory Science	Certificate	JCMLS
Computing	National Certificate/Diploma	NCEA
Applied Science (Phy., Chem., Biol.)	National Certificate/Diploma	NCEA
Aquaculture	National Certificate/Diploma	NCEA
Business Studies	National Certificate/Diploma	NCEA
Stadair Gno	National Certificate/Diploma	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Business Studies (Agri-Bus)	National Certificate/Diploma	NCEA
Hotel & Catering Management	Certificate	NCEA

Tourism Reception	Certificate	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Electronics	National Certificate/Diploma	NCEA
Fine Woodworking & Design	National Certificate	NCEA
Engineering (Industrial)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Science (Chem/Pharmaceutical)	National Diploma	NCEA
Science (Aquatic)	National Diploma	NCEA
Science (Ind. Instrumentation)	National Diploma	NCEA
Business Studies (Marketing)	National Diploma	NCEA
Business Studies (Accountancy)	National Diploma	NCEA
Building Management	National Diploma	NCEA
Engineering (Electronic)	National Diploma	NCEA
Engineering (Production)	National Diploma	NCEA
Auctioneering/Valuation	National Diploma	NCEA
Art & Design	National Diploma	NCEA
Hotel & Catering Management	National Diploma	NCEA
Design (Ceramics)	National Certificate	NCEA
Marketing	National Diploma	NCEA
Child Care	National Diploma	NCEA
College: Letterkenny RTC		
Business Studies	National Certificate	NCEA
Business Studies (Languages)	National Certificate/Diploma	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Stadair Runiochta	National Certificate	NCEA
Legal Studies	National Certificate/Diploma	NCEA
Computing	National Certificate/Diploma	NCEA
Accountancy	National Certificate	NCEA
Applied Languages	Certificate	
Design (Graphics)	National Certificate/Diploma	NCEA
Design (Products)	National Certificate	NCEA
Agricultural Science	National Certificate	NCEA
Science (Biology)	National Certificate/Diploma	NCEA
Science (Chemistry)	National Certificate/Diploma	NCEA
Fish Farming	Certificate	NCEA
Engineering (Mechanical)	National Certificate	NCEA

Engineering (Civil)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Electronics	National Certificate/Diploma	NCEA
Marketing	National Diploma	NCEA
Science (Analytical)	National Diploma	NCEA
Science (Food)	National Diploma	NCEA
College: Limerick CoACT		
Construction Studies	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Electronics	National Certificate/Diploma	NCEA
Electronics/Telecommunications	Diploma	City & Guilds
Science (Applied Chemistry)	National Certificate/Diploma	NCEA
Computing (Applied)	National Certificate/Diploma	NCEA
Marketing Management	Certificate/Diploma	MII
Industrial Engineering (Work Study)	Certificate/Diploma	IIE/ITD
Architectural Technician	Certificate/Diploma	RSAI
Marine Electronics	Certificate/Diploma	
Instrumentation/Robotics	Certificate/Diploma	
Accounting Technician	Certificate	AAT
Engineering (Electronic)	National Diploma	NCEA
Science (Chemical)	National Diploma	NCEA
Computing (Software Engineer)	National Diploma	NCEA
Art & Design	National Diploma	NCEA
Data Analysis	Diploma	ACCA
Marine Radar	Certificate	Dept. Comm
College: Sligo RTC		
Business Studies	National Certificate/Diploma	NCEA
Business Studies (French)	National Certificate/Diploma	NCEA
Business Studies (German)	National Certificate/Diploma	NCEA
Business Studies (Secretarial)	National Certificate	NCEA
Social Studies	National Certificate/Diploma	NCEA
Computing	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Engineering (Electronic)	National Certificate/Diploma	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Applied Science (Biology)	National Certificate/Diploma	NCEA

Applied Science (Chemistry)	National Certificate/Diploma	NCEA
Applied Science (Food)	National Certificate	NCEA
Applied Science (Food)	Certificate	ICA
Financial Data Processing	Certificate	CIMA
Costing Technician	National Diploma	NCEA
Business Studies (Accountancy)	National Diploma	NCEA
International Marketing	National Diploma	NCEA
ART/Design (Graphics)	National Diploma	NCEA
Environment Control	National Diploma	NCEA
Art & Design	National Diploma	NCEA
Construction Economics	National Diploma	NCEA
Engineering (Water)	National Diploma	NCEA
Quality Control	National Diploma	NCEA
Industrial Design (Tool)	National Diploma	NCEA
Science (Chem. Anal/Qual.Management)	National Diploma	NCEA
College: Tralee RTC		
Business Studies	National Certificate/Diploma	NCEA
Business Studies - Office Administration	National Certificate	NCEA
Engineering (Agricultural)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate	NCEA
Engineering (Mechtronics)	National Certificate	NCEA
Construction Studies	National Certificate/Diploma	NCEA
Computing	National Certificate/Diploma	NCEA
Applied Science (Chemistry)	National Certificate/Diploma	NCEA
Applied Science (Biology)	National Certificate/Diploma	NCEA
Applied Science (Physics)	National Certificate	NCEA
Health Science	Certificate	NCEA
Fish Farming	Certificate	NCEA
Business Studies (Marketing & Languages)	National Certificate	NCEA
Business Studies (Information Management)	National Diploma	NCEA
Business Studies (Office Administration)	National Certificate	NCEA
College: Waterford RTC		
Engineering (Electronics)	National Certificate/Diploma	NCEA
Engineering (Mechanical)	National Certificate/Diploma	NCEA
Engineering (Production)	National Certificate/Diploma	NCEA
Engineering (Civil)	National Certificate/Diploma	NCEA

Build Maintenance Technician	Certificate	DIT
Architectural Technician	Diploma	DIT
Graphic Reproduction	National Diploma	DIT/NCEA
College: Kevin Street		
Electronics Technician	Certificate	DIT
European Languages	Certificate/Diploma	DIT
Electronics/Electronic Draughting	Certificate	DIT
Computer Science Technician	Diploma	DIT
Applied Science Technician (Chemical)	Diploma	DIT
Applied Science Technician (Physics)	Diploma	DIT
Applied Science Technical (Biology)	Diploma	DIT
Medical Lab Science Technician	Diploma	DIT
Engineering Technician (Electrical)	Diploma	DIT
Engineering (Electrical) Technician	Diploma	DIT
Engineering (Electronic) Technician	Diploma	DIT
Bakery Production & Management	Diploma	DIT
Commercial Photography	Diploma	DIT
College: College of Commerce, Rathmines		
Business Studies	Certificate	DIT
Computer Prog. (Commercial)	Certificate	DIT
Transport Management	Certificate	DIT
Work Study	Certificate	IIIE
Advertising	Certificate	DIT
Public Relations	Diploma	DIT
Accounting (Financial)	Certificate	ACCA
Accounting (Management)	Certificate	CIMA
Financial Data Processing	Certificate	ICA
Journalism	Certificate	DIT
Legal Studies	Diploma	DIT
Communications	Diploma	DIT
College: Marketing & Design, Mountjoy Square		
Marketing	Certificate/Diploma	DIT
Business Studies (Management\)	Certificate/Diploma	DIT
Business Studies (Proprietorship)	Certificate	DIT
Business Studies (Retail Market)	Certificate	DIT
Business Studies (Security)	Certificate	DIT
Design (Display)	Certificate	DIT

Construction Studies (Arch.)	National Certificate/Diploma	NCEA
Reconstruction Studies (Economics)	National Certificate/Diploma	NCEA
Applied Science	National Certificate	NCEA
Agricultural Science	National Certificate	NCEA
Computing (Commercial)	National Certificate	NCEA
Computing (Industrial)	National Certificate	NCEA
Business Studies	National Certificate/Diploma	NCEA
Legal Studies	National Certificate	NCEA
Technology (Manufacturing)	National Diploma	NCEA
Financial Data Processing	Certificate	ICA
Data Analysis	Certificate	ACCA
Costing Technician	Diploma	CIMA
Administrative Technician	Certificate	ICSA
Applied Chemistry	National Diploma	NCEA
Biotechnology	National Diploma	NCEA
Fine Art	National Diploma	NCEA
Design	National Diploma	NCEA
Recreation Leisure Management	National Diploma	NCEA
Business Studies (Languages & Marketing)	National Diploma	NCEA
Export Law	National Diploma	NCEA
Child Care	National Diploma	NCEA
College: Tallaght RTC		
Business Studies	National Certificate	NCEA
Computing	National Certificate	NCEA
Science	National Certificate	NCEA
Engineering (Mechanical)	National Certificate	NCEA
Engineering (Electronics)	National Certificate	NCEA
College: Bolton Street		
Construction Technician	National Certificate/Diploma	DIT/NCEA
Geo-Surveying Technician	Certificate/Diploma	DIT
Auctioneer, Estate Agent, Valuation	Certificate/National Diploma	DIT/NCEA
Engineering (Civil) Technician	Certificate/Diploma	DIT
Building Services Technician	Certificate/Diploma	DIT
Engineering (Mechanical) Technician	Certificate/Diploma	DIT
Engineering (Trans.) Technician	Certificate/Diploma	DIT
Printing	National Certificate/Diploma	DIT/NCEA
Motor Industry Management	Certificate/Diploma	DIT

Design (Presentation)	Certificate	DIT
Design (Visual Media)	Certificate	DIT
Business Studies (Bar Management)	Certificate	DIT
Business Studies (Meat Marketing)	Certificate	DIT
Retailing (Supermarket)	Certificate	DIT
Retailing (Hardware/Clothing)	Certificate	DIT
Art & Design	Certificate	DIT
Fine Art	Diploma	DIT
Marketing & Administration	Diploma	DIT
College: College of Catering, Cathal Brugha Street		
Travel & Tourism	Certificate	DIT/NCEA
Diet Cookery	Certificate	DIT/NCEA
Hotel & Catering Supervision	Certificate	DIT/NCEA
Applied Social Studies	Certificate/Diploma	DIT/NCEA
Pre School Care	Certificate	DIT/NCEA
Food Technology	Certificate/Diploma	DIT/NCEA
Food Quality Assurance	Certificate	DIT/NCEA
Health Care Technology	Certificate/Diploma	DIT/NCEA
Hotel Reception	Certificate	DIT/NCEA
Home Management	Certificate	DIT
Hotel Management	Diploma	DIT/NCEA
Catering Management	Diploma	DIT/NCEA
Environmental Resource Management	Diploma	DIT/NCEA
Leisure Management	Diploma	DIT/NCEA
College: Art & Design, Cork		
Art (Fine Art)	National Diploma	NCEA
Design (Ceramics)	National Diploma	NCEA
College: Art & Design, Dun Laoghaire		
Commercial Photography	National Certificate	NCEA
Ceramics	Certificate	College
Design Communication	National Diploma	NCEA
Art	National Diploma	NCEA

Other Evaluations Completed by the European Social Fund Programme Evaluation Unit

Preliminary Review on Community Employment (June 1995)

Report on the Impact of Evaluations (May 1995)

Evaluation Report on Training and Employment Grants (February 1995)

Evaluation Report on the Vocational Preparation and Training Programme (August 1994)

Survey of Micro Enterprise (July 1994)

Thematic Evaluation on Women's Training Provision (April 1994)

Thematic Evaluation on Recording Systems (April 1994)

Thematic Evaluation on Impact Indicators (April 1994)

Thematic Evaluation on Training of Trainers (March 1994)

Survey of Employers (December 1993)

Follow-Up Evaluation on the FÁS Specific Skills Training Programme (December 1993)

Follow-Up Evaluation on the FÁS Industrial Restructuring Programme (December 1993)

Evaluation of Certification Systems (December 1993)

Evaluation Report on FÁS Enterprise Measures (June 1993)

Evaluation Report on the Human Resources Sub-Programme of the Tourism Operational Programme (June 1993)

Evaluation Report on the Advanced Technical Skills Programme (December 1992)

Evaluation Report on the FÁS Industrial Restructuring Programme (December 1992)

Evaluation Report on the FÁS Specific Skills Training Programme (December 1992)

Copies and further information available from the European Social Fund Programme Evaluation Unit, Davitt House, 65A Adelaide Road, Dublin 2. Telephone: 6614444 Extension 3355.